

Supplemental Table 1: Primers used for the Cloning and mutagenesis of *E. coli nuoH* Gene.

Primer	Sequence
A	5'-GCTTCTGCTATCC <u>CCGG</u> GAATGCTGCGCTGG-3'
D	5'-GCATAGAAGCCAG <u>GTCG</u> ACCGCCAGTACGTAAG-3'
B	5'-GCAGGATCACCAA <u>AGCTTT</u> GAGGATGGTCAGCAGG-3'
C	5'-CTGCCTGCCGCTGA <u>AGCTT</u> ATCAACTTGC-3'
E2	5'-GGGTCAAAGCTTCAGTGGAAACGAAAACCTCAC-3'
F2	5'-GGAAGATAAGCTTTCTATTTTCAATAGTTACAAATTG-3'
E36A	5'-CATGAGCTTTGGCG <u>C</u> ACGTCGCCTGCTGGGTCTG-3'
E36D	5'-GCATTCATGAGCTTTGGCGA <u>T</u> CGTCGCCTGCTGGGTCTG-3'
R37A	5'-CATGAGCTTTGGCGAA <u>GCT</u> CGCCTGCTGGGTCTG-3'
R37K	5'-CATGAGCTTTGGCGAA <u>AAG</u> CGCCTGCTGGGTCTG-3'
Q44A	5'-GCCTGCTGGGTCTGTT <u>CG</u> GAACCGTTACGGACC-3'
R46A	5'-CTGGGTCTGTTCCAGAAC <u>GCT</u> TACGGACCTAACCGTG-3'
R46K	5'-GCCTGCTGGGTCTGTTCCAGAAC <u>AAG</u> TACGGACC-3'
P49A	5'-CCAGAACCGTTACGG <u>A</u> GCTAACCGTGTTGGCTGG-3'
D63A	5'-CGCTCCAGCTGGTTGCGG <u>C</u> CATGATCAAAATGTTC-3'
D63E	5'-CGCTCCAGCTGGTTGCGGA <u>G</u> ATGATCAAAATGTTC-3'
D63N	5'-CATTTTGATCATGTT <u>TCG</u> CAACCAGCTGGAGCGAACCGCCCCAGC-3'
K70A	5'-GCGGACATGATCAAAATGTTCTTT <u>GC</u> AGAAGACTGGATCCCG-3'
E71A	5'-GCGGACATGATCAAAATGTTCTTTAAAG <u>C</u> AGACTGGATCCCG-3'
G134V	5'-CGCGGTGCTGTTTGC <u>G</u> TCTGGTCAAGTAACAAC-3'
G134A	5'-GGTTTACGCGGTGCTGTTTGC <u>G</u> CTGGTCAAG-3'
G134L	5'-GGTTTACGCGGTGCTGTTTGC <u>G</u> CTCTGGTCAAG-3'
S137A	5'-GCGGGCTGGTCA <u>GCT</u> AACAACAATACTCGTTGCTGG-3'
G145V	5'-CAAATACTCGTTGCTGGT <u>TG</u> CGATGCGTGCTTCTGCG-3'
G145A	5'-CAACAATACTCGTTGCTGG <u>CT</u> GCGATGCGTGCTTC-3'
R148A	5'-CGTTGCTGGGTGCGATG <u>GCT</u> GTCTTCTGCGCAGAC-3'
S155A	5'-CTGCGCAGACCCTG <u>GC</u> CTACGAAGTGTTCCCTCG-3'
Y156A	5'-CTGCGCAGACCCTGAGC <u>GCC</u> GAAAGTGTTCCCTCG-3'
E157A	5'-GACCCTGAGCTACG <u>C</u> AGTGTTCCCTCGGGCTTTC-3'
E157K	5'-CGCAGACCCTGAGCTAC <u>A</u> AAGTGTTCCCTCGGGCTTTC-3'
V206G	5'-CATCGCGGGCGTGCGG <u>G</u> ATGTCACCGTCACCCGTTTG-3'
R209A	5'-GCGTGCGGGTATGTCAC <u>GCT</u> CACCCGTTTGACCAGC-3'
D213A	5'-GTATGTCACCGTCACCCGTTTG <u>CC</u> CAGCCGGAAG-3'
E216A	5'-GTTTGACCAGCCGG <u>C</u> AGCCGAGCAGGAACTG-3'
E218A	5'-GACCAGCCGGAAGCCG <u>C</u> GCAGGAACTGGCG GAT G-3'
E220A	5'-GAAGCCGAGCAGG <u>C</u> ACTGGCGGATGGTTAC C-3'
E220Q	5'-GAAGCCGAGCAG <u>C</u> A ACTGGCGGATGGTTAC C-3'
E228A	5'-GGCGGATGGTTACCACATTG <u>C</u> ATATTCCGGTATGAAGTT C-3'
E228Q	5'-GGCGGATGGTTACCACATT <u>C</u> AATATTCCGGTATGAAGTT C-3'
E241A	5'-CTGTTCTTCGTGGGTG <u>C</u> GTACATCGGGATTGTGACCATC-3'
E241Q	5'-CTGTTCTTCGTGGGT <u>C</u> AGTACATCGGGATTGTGACCATC-3'
R286A	5'-GATGTTCAATTTGATT <u>GCT</u> GCGTCGTTACCGCGTCCGCG-3'
R291A	5'-GATTCGTGCGTCGTTACCG <u>GCT</u> C CGCGTTATGACCAG-3'
D295A	5'-GTTACCGCGTCCGCGTTATG <u>CC</u> CAGGTAATGTCCTTCGGC-3'
D295E	5'-CGTTACCGCGTCCGCGTTATG <u>A</u> G CAGGTAATGTCCTTCGGCTGG-3'
K303A	5'-GTCCTTCGGCTGG <u>G</u> CAATCTGCCTGCCGCTG-3'

A-F2 represent the sequence of primers used for cloning and insertion of *spc* cassette in *E. coli nuoH* gene. The italicized bases represent the introduced restriction sites *SmaI* and *SalI* (in case of A and D, respectively) and *HindIII* (in case of B, C, E2 and F2). The underlined bases were altered from *E. coli* DNA. From E36A onwards, the sequence represents the primers used for the introduction of a site-specific mutation and the underlined bases represent mutations.