Supplementary File 5. Primers used for constructing mutant vectors.

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| Primers | Oligonucleotide sequences (5’ to 3’) |
| V201A-F | CAAGGGTACTCCGCACTACTT |
| V201A-R | ATGTTCAAGTAGTGCGGAGTA |
| V201C-F | CAAGGGTACTCCTGTCTACTT |
| V201C-R | ATGTTCAAGTAGACAGGAGTA |
| V201D-F | CAAGGGTACTCCGATCTACTT |
| V201D-R | ATGTTCAAGTAGATCGGAGTA |
| V201E-F | CAAGGGTACTCCGAACTACTT |
| V201E-R | ATGTTCAAGTAGTTCGGAGTA |
| V201F-F  | CAAGGGTACTCCTTTCTACTT |
| V201F-R | ATGTTCAAGTAGAAAGGAGTA |
| V201G-F  | CAAGGGTACTCCGGTCTACTT |
| V201G-R | ATGTTCAAGTAGACCGGAGTA |
| V201H-F | CAAGGGTACTCCCATCTACTT |
| V201H-R  | ATGTTCAAGTAGATGGGAGTA |
| V201I-F | CAAGGGTACTCCATTCTACTT |
| V201I-R | ATGTTCAAGTAGAATGGAGTA |
| V201K-F | CAAGGGTACTCCAAACTACTT |
| V201K-R | ATGTTCAAGTAGTTTGGAGTA |
| V201L-F | CAAGGGTACTCCCTGCTACTT |
| V201L-R | ATGTTCAAGTAGCAGGGAGTA |
| V201M-F | CAAGGGTACTCCATGCTACTT |
| V201M-R  | ATGTTCAAGTAGCATGGAGTA |
| V201N-F | CAAGGGTACTCCAATCTACTT |
| V201N-R | ATGTTCAAGTAGATTGGAGTA |
| V201P-F  | CAAGGGTACTCCCCGCTACTT |
| V201P-R |  ATGTTCAAGTAGCGGGGAGTA |
| V201Q-F | CAAGGGTACTCCCAGCTACTT |
| V201Q-R | ATGTTCAAGTAGCTGGGAGTA |
| V201R-F | CAAGGGTACTCCCGTCTACTT |
| V201R-R | ATGTTCAAGTAGACGGGAGTA |
| V201S-F  | CAAGGGTACTCCAGCCTACTT |
| V201S-R | ATGTTCAAGTAGGCTGGAGTA |
| V201T-F | CAAGGGTACTCCACCCTACTT |
| V201T-R | ATGTTCAAGTAGGGTGGAGTA |
| V201W-F | CAAGGGTACTCCTGGCTACTT |
| V201W-R | ATGTTCAAGTAGCCAGGAGTA |