

Table SI. Synthetic oligonucleotides used for the site-directed mutagenesis.

| LFNR mutants | | PCR primers (5'→3') |
|--------------|-----------------|------------------------------------|
| R235Q | FW ¹ | 5'-GACTACGCCGTCAGCCAGGAGCAGACG-3' |
| | RV ² | 5'-CGTCTGCTCCTGGCTGACGGCGTAGTC-3' |
| R244Q | FW | 5'-GCGGCGGGGGAGCAGATGTACATCCAG-3' |
| | RV | 5'-CTGGATGTACATCTGCTCCCCCGCCGC-3' |
| Y314S | FW | 5'- GGAATGTGGAGGTCTCCTAACCGCTG -3' |
| | RV | 5'- CAGCGGTTAGGAGACCTCCACATTCC -3' |

¹forward primers

²reverse primers