

Table S1: Primers used in this study.

Primers	Sequences 5'-3'	Amplification product
F1	CCCAGNNKATGAACGATAATGTCTGGCT	site-saturation mutagenesis of ECA II-D60
R1	TTCATMNNCTGGGAGCCGATATTCACTAC	site-saturation mutagenesis ECA II-D60
F2	AATGAANNKCCGAAAGTCGGCATTGTTTA	site-saturation mutagenesis of ECA II-L211
R2	GGMNNTTCATTCAGCTTAGAGACAT	site-saturation mutagenesis of ECA II-L211
F3	GGCTNNKACGCAAACCAAAGATCCGCA	site-saturation mutagenesis of ECA II-L310
R3	TGCGTMNNAGCCAGTTGCAGCAGAACGCGC	site-saturation mutagenesis of ECA II-L310
F4	CTCTAAGCTGAATGAACGCCCCGAAA	combinatorial mutant D60W/L211R/L310R
R4	TAAACAATGCCGACTTTCGGGCGTTC	combinatorial mutant D60W/L211R/L310R
F5	'CTGCTGCAACTGGCTCGCAC	combinatorial mutant D60W/L211R/L310R
R5	TGCGGATCTTTGGTTTGCGTGCGAGCC	combinatorial mutant D60W/L211R/L310R