

**Table S1.** Sequences of primers used in this study

Designation	Sequence	Length (bp)	Target
P146F1F	<u>CACCGTTGCCTTTAAATCCGATGTC</u>	25	F1 <sub>P146</sub> forward primer
P146F1R	<u>TCATACCTTAAAGTCGCTAAGTTG</u>	24	F1 <sub>P146</sub> reverse primer
P146F2F	<u>CACCGCTCCACAGACAAGTTCTTCG</u>	25	F2 <sub>P146</sub> forward primer
P146F2R	<u>TCACTCTTGTTGTTGGA</u> ACTCGGT	24	F2 <sub>P146</sub> reverse primer
P146F3F	<u>CACCGCAAATTCAACTAATTCTAGT</u>	25	F3 <sub>P146</sub> forward primer
P146F3R	TTACCTCGCCGCCTTAGCAG	20	F3 <sub>P146</sub> reverse primer
P146Mut1F	GTTTCAGCTTGGTCTAACTTAGAT	24	TGA mutation 1 forward primer
P146Mut1R	ATCTAAGTTAGACCAAGCTGAAAC	24	TGA mutation 1 reverse primer
P146Mut2F	TCAAGTTTCTTTGGTGATTCA	21	TGA mutation 2 forward primer
P146Mut2R	TGAATCACCAAAGAACTTGACCAAAGACTAAT	33	TGA mutation 2 reverse primer
P146Mut3F	GAGGCACTTTTAGATGCTTGGGTTGGAAAACAAAATTC	39	TGA mutation 3 forward primer
P146Mut3R	GAAATTTTGTTCCTCAACCAAGCATCTAAAAGTGCCTC	39	TGA mutation 3 reverse primer
P146Mut4F	CAGGCTAAAAGATTAATTTTGCAAGTTGGAGTCAACTCCAAGACG	46	TGA mutation 4 forward primer
P146Mut4R	CGTCTTGGAGTTGACTCCAACTTGCAAATTTAATCTTTTAGCCTG	46	TGA mutation 4 reverse primer
P146Mut5F	GAACAAGTTAAAACAAATAATGGCC	25	TGA mutation 5 forward primer
P146Mut5R	GGCCATTATTTGTTTTAACTTGTTCCTTCACTTTGTTTTAGATA	46	TGA mutation 5 reverse primer
P146Mut5F (J)	GATCAAGTTAAAACAACAAATAATG	25	TGA mutation 5 for. primer (J)
P146Mut5R (J)	CATTATTTGTTGTTTTAACTTGATCCCATTCTTTTGTTTTAGATA	46	TGA mutation 5 rev. primer (J)
P146F3R (J)	TTACTTCGCCGCTTTAGCAG	20	F3 <sub>P146</sub> reverse primer (J)
P146F3R (ΔK)	TTACGCCGCTTTAGCAGCAGCTGCTGCAGGAGCACTAGAA	40	F3 <sub>P146</sub> reverse primer (ΔK)
P146F3R (232ΔR)	TTACGCCGCCTTAGCAGCAGCAGCTGCTGCCGGAGCACTA	40	F3 <sub>P146</sub> reverse primer (232ΔR)

Additional sequence CACC (underlined) added to facilitate directional cloning into pET100/GW/D-TOPO vector. Additional sequence TCA (underlined) added to signal end of translation. Unique primers required to create strain J and 232 versions of F3<sub>P146</sub> are labelled in brackets.