

**Table S1.****Primers for amplification of derivatives of OppA<sub>MTB</sub>**

Primers for OppA derivatives		
Primer b	Primer c	Mutation
5'- AACATCTTGCACGACGACGGCAAC-3'	5'-GTTGCCGTCGTCGTGCAAGATGTT -3'	I 107S
5'-TTGCACATCGCCGGCAACAAC-3'	5'-GTTGTTGCCGGCGATGTGCAA-3'	D108A
5'-TTGCAATCGACAGCAACAACGCC -3'	5'-GGCGTTGTTGCTGTCGATGTGCAA -3'	G109S
5'-ATCGACGGCGCCAACGCCGAG-3'	5'-CTCGGCGTTGGCGCCGTCGAT-3'	N110A
5'-AACAACGCCGAGGACGCGGGCGATG-3'	5'-CATCGCCGCGTCCTCGGCGTTGTT -3'	V114D
5'- AACGCCGAGGTCGAGGCGATGATG-3'	5'-CATCATCGCCTCGACCTCGGCGTT -3'	A115D
5'-GAGTGGCGCGGTAAGTTCGCGGGC-3'	5'-GCCCCGGAACCTACCGCGCCACTC-3'	M226N
5'-TTCGCGGGCAACTACATGCTGCTG-3'	5'-CAGCAGCATGTAGTTGCCCGCAA -3'	G231Y
5'-ATCGCTTCTGGCAGCGGGGCC-3'	5'-GGCGCCGCTGCCAGAAGCGAT-3'	S194G
5'-GCCCAATACGCCCTCACCAGC-3'	5'-GCTGGTGAGGGCGTAAACCCG-3'	G377R
5'-GACATCGCAGCGTTCGGCTGG-3'	5'-CCAGCCGAACGCTGCGATGTC-3'	Q488A
5'-GCACAGTTCGGCTCGGTGGGCGAC -3'	5'-GTCGCCCACCGAGCCGAACTGTGC -3'	W491S
5'-TGGGTGGGCAACCGTTTTCCG-3'	5'-CGGAAACGCGTTGCCACCCA-3'	D494N
5'-GTGGGCGACGCGTTCCGCTGTCA-3'	5'- TGACAGCGGAACCGCGTCGCCAC-3'	F496D

“a” 5'-TTTCTAGAC**CATATGG**GCTGACCGTGGCCAG-3' ( NdeI site in bold)

“d” 5'-TATA**AGCTT**CAGCGTCGCATGAACCC-3' ( HindIII site in bold)