

## **Additional file 6. Alignment of PoMSP1 sequences.**

**(A)** Nucleotide substitutions and the 12-nucleotide repeat region of *PoMSP-1* (numbering based on the sequence of the *PoMSP-1* from the Thai isolate Po-7). \*GenBank accession numbers: KX672045 (C0100511), KX672044 (M0500214); Cameroon (CM) isolates: FJ824670 and FJ824671; Thailand (TH) isolates: KC137340-KC137341, KC137343-KC137346 and KC137349.

A.

	421	541	1929	2814	
2911					*****
	▼	▼	▼	▼	*****
TH Po-7	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACATGCCTACACAGCGCTACACAAGCGCTACACAA-----GGT
CO100511	TATCTA	CATCTT	CCCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACATGCCTACACAGCGCTACACAAGCGCTACACAA-----GGT
M0500214	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACATGCCTACACAGCGCTACACAAGCGCTACACAA-----GGT
TH Po-10	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACATGCCTACACAGCGCTACACAAGCGCTACACAA-----GGT
TH Po-4	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACATGCCTACACAGCGCTACACAAGCGCTACACAA-----GGT
CM OM1A	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACAGCGCTACACAAGCGCTACACAA-----GGT
CM OM1B	TATCTA	CATCTT	CCTCGAG	AA	GGCGCTACACAAGTCAACTAGCATAATCCGCTACACAAACCGCTACACATGCCTCTACACAGCGCTACACAAGCGCTACACAA-----GGT
TH Po-1	TACTTA	CATCTT	CCTCGAG	-	TCACATACGCAAAGAGT-----GGT CACCA GCG ACTAC-----TTTACACCAGTTCTTAC-----
TH Po-2	TACTTA	CATCTT	CCTCGAG	-	TCACATACGCAAAGAGT-----GGT CACCA GCG ACTAC-----TTTACACCAGTTCTTAC-----
TH Po-5	TACTTA	CATCTT	CCTCGAG	-	TCACATACGCAAAGAGT-----GGT CACCA GCG ACTAC-----TTTACACCAGTTCTTAC-----

**(B)** Amino acid polymorphisms in the variable domains of PoMSP-1. Protein sequence numbering was based on the sequence of the PoMSP-1 from the Thai isolate Po-7. \*GenBank accession numbers: KX672045 (C0100511), KX672044 (M0500214); Cameroon (CM) isolates: FJ824670 and FJ824671; Thailand (TH) isolates: KC137340-KC137341, KC137343-KC137346 and KC137349.

B.

