Supplementary Data

DISRUPTION OF A *PLASMODIUM FALCIPARUM* MULTIDRUG RESISTANCE-ASSOCIATED PROTEIN (PfMRP) ALTERS ITS FITNESS AND TRANSPORT OF ANTIMALARIAL DRUGS AND GLUTATHIONE

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Running title: ABC transporter and drug resistance in malaria parasite

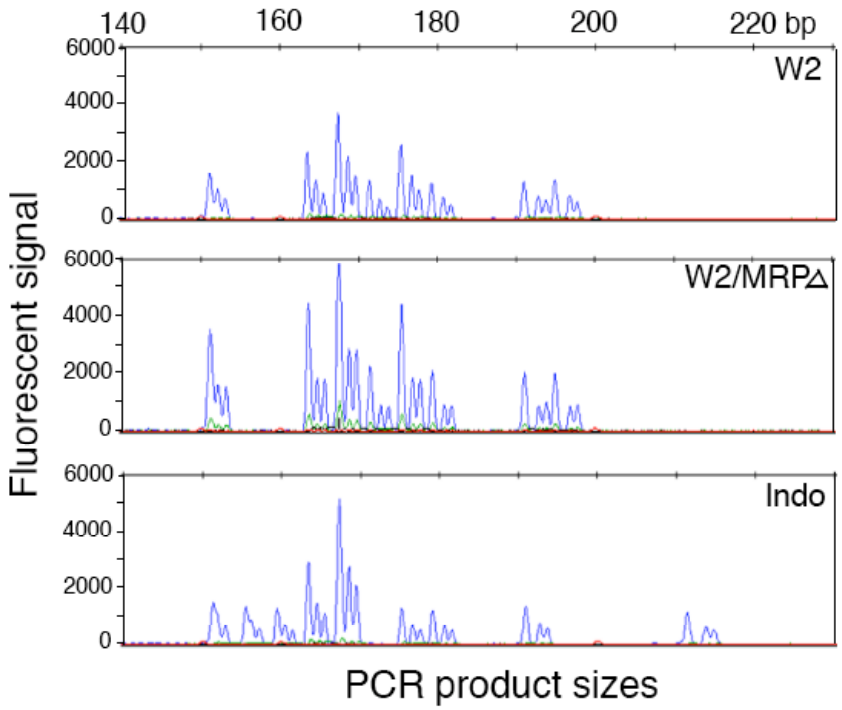
Supplemental Table 1. Microsatellites and their primer sequences used in typing parasites

MS	Forward Primer (5'-3')	Reverse Primer (5'-3')
c1m4	atatcctacaacggtaagca	ttctttttgaggagtaatgt
c1m67	acaggatttttgaagaaaaag	taggataaatgtagctttag
c4m62	gaattcacttaaatgtatttatttg	atgaagttatccattcgttt
c4m68	cacatttatatgtatatgtga	acaaatacttaaatgtggac
c13m13	gttataagtatagcagacga	tatacattacggtattttaaa
c13m63	agagatactatgattatttta	atattacaaagcttactacc
c14m17	acacaaagagaataggtata	tagtaattctagtttaccta
b5m124	taataagtgtaagaaatatgga	ataaaacagagcaaaataaag
b5m5	taaataatacaactactaatga	attgatccatatttatatctc
bm17	aacgatatgtggtatgataaa	aaaaaaaaagatgcgcacac

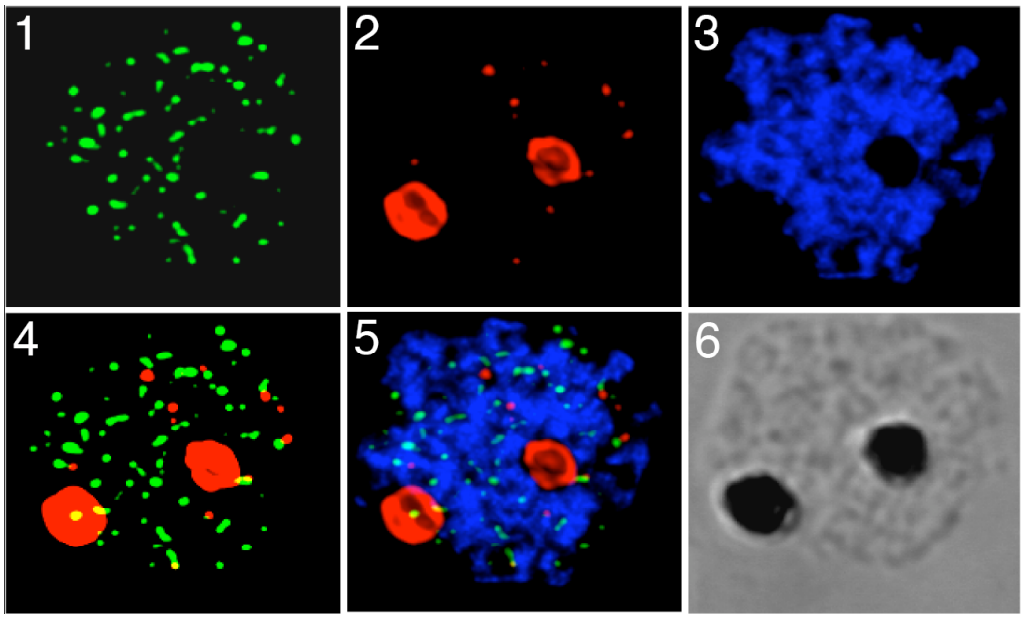
Supplemental Table 2. Amino acid substitution in PfMRP and quinine IC_{50} for parasites from South America

Parasite	Origin	aa191	aa437	QN (nM)
PC15	Peru	Y	A	707.4
PC09	Peru	Y	A	463.4
PC26	Peru	Y	A	286.9
DIV17	Brazil	H	S	270.7
DIV14	Brazil	Y	A	231.7
ICS	Brazil95	Y	A	222.6
ECP	Brazil95	H	S	208.8
PC17	Peru	Y	A	204.8
JAV	Columbia	Y	A	201.8
PC49	Peru	H	A	184.7
7G8	Brazil	H	S	157.4
PAD	Brazil95	H	S	113.3
DIV30	Brazil	H	S	112.2
ECU	Ecuador	H	S	84.9

Drug data were obtained using radioactive hypoxanthine incorporation method. The IC_{50} data were reported previously (1).



Supplemental Figure 1. Parasite typing using a multiple copy microsatelliete marker PfRRM (2). W2, W2/MRPΔ, and Indo from Indochina (a parasite that was cultured at the same time) were typed with PfRRM. Same patterns were observed for W2 and W2/MRPΔ.



Supplemental Figure 2. Immunofluorescent assay (IFA) localization of PfMRP and PfCRT in mature schizonts and merozoites. 1, anti-PfMRP; 2, anti-PfCRT, staining food vacuoles; 3, DAPI; 4, merged images of 1 and 2; 5, merged image of 1-3; and 6, differential interference contrast (DIC).

1. Mu, J., Ferdig, M. T., Feng, X., Joy, D. A., Duan, J., Furuya, T., Subramanian, G., Aravind, L., Cooper, R. A., Wootton, J. C., Xiong, M., and Su, X.-z. (2003) *Mol Microbiol* **49**, 977-989
2. Su, X.-z., Carucci, D. J., and Wellems, T. E. (1998) *Exp Parasitol* **89**, 262-265