

**S6 Table. Pearson correlation coefficient values for MitoTracker Deep Red imaging studies.**

Parasite line	Antibody/Dye used for staining	Treatment <sup>1</sup>	Duration of Treatment	0h post treatment		12h post treatment	
				N <sup>2</sup>	PCC median [IQR]	N	PCC median [IQR]
NF54 <sup>WT</sup> attB-GFP-K13 <sup>WT</sup>	$\alpha$ -GFP / MitoTracker Deep Red	DMSO	6h	31	0.25 [0.10-0.41]	18	0.44 [0.16-0.60]
		DHA (700 nM)	6h	33	0.55 [0.33-0.76]	20	0.84 [0.74-0.92]
NF54 <sup>WT</sup> attB-3HA-K13 <sup>C580Y</sup>	$\alpha$ -HA / MitoTracker Deep Red	DMSO	6h	16	0.34 [0.22-0.53]	--	--
		DHA (700 nM)	6h	19	0.56 [0.42-0.61]	--	--
Cam3.II <sup>R539T</sup>	$\alpha$ -K13 (E3) / MitoTracker Deep Red	DMSO	6h	20	-0.03 [-0.11-0.13]	19	0.031 [-0.04-0.10]
		DHA (700 nM)	6h	23	0.22 [0.09-0.40]	20	0.37 [0.14-0.52]
Cam3.II <sup>WT</sup>	$\alpha$ -K13 (E3) / MitoTracker Deep Red	DMSO	6h	18	0.11 [0.02-0.24]	21	0.21 [0.17-0.33]
		DHA (700 nM)	6h	22	0.24 [0.07-0.39]	22	0.42 [0.36-0.53]
Cam3.II <sup>R539T</sup>	$\alpha$ -K13 (E3) / MitoTracker Deep Red	DMSO	4h	11	0.10 [-0.05-0.17]	--	--
		DHA (60 nM)	4h	10	0.05 [-0.15-0.13]	--	--
		ATQ (100 nM)	4h	13	0.06 [-0.04-0.20]	--	--
		ATQ (1200 nM)	4h	12	0.03 [-0.06-0.17]	--	--
		DHA 60 nM + ATQ 100 nM	4h	13	0.33 [0.14-0.41]	--	--
		DHA 60 nM + ATQ 1200 nM	4h	12	0.30 [0.12-0.57]	--	--
Cam3.II <sup>WT</sup>	$\alpha$ -K13 (E3) / MitoTracker Deep Red	DMSO	4h	11	0.25 [-0.01-0.35]	--	--
		DHA (60 nM)	4h	10	0.08 [0.00-0.37]	--	--
		ATQ (100 nM)	4h	12	0.28 [0.06-0.35]	--	--
		ATQ (1200 nM)	4h	12	0.27 [0.09-0.31]	--	--
		DHA 60 nM + ATQ 100 nM	4h	12	0.10 [0.02-0.23]	--	--
		DHA 60 nM + ATQ 1200 nM	4h	9	0.38 [0.23-0.41]	--	--
Cam3.II <sup>R539T</sup>	$\alpha$ -ERD2 / MitoTracker Deep Red	DMSO	6h	13	0.38 [0.18-0.68]	--	--
		DHA (700 nM)	6h	12	0.43 [0.27-0.52]	--	--
Cam3.II <sup>WT</sup>	$\alpha$ -ERD2 / MitoTracker Deep Red	DMSO	6h	15	0.51 [0.25-0.67]	--	--
		DHA (700 nM)	6h	13	0.56 [0.33-0.71]	--	--
Cam3.II <sup>R539T</sup>	$\alpha$ -TRiC / MitoTracker Deep Red	DMSO	6h	13	0.44 [0.32-0.62]	--	--
		DHA (700 nM)	6h	14	0.38 [0.26-0.56]	--	--
Cam3.II <sup>WT</sup>	$\alpha$ -TRiC / MitoTracker Deep Red	DMSO	6h	13	0.55 [0.30-0.68]	--	--
		DHA (700 nM)	6h	16	0.51 [0.25-0.67]	--	--
Cam3.II <sup>R539T</sup>	Rab5A / MitoTracker Deep Red	DMSO	6h	12	0.46 [0.19-0.57]	--	--
		DHA (700 nM)	6h	13	0.35 [0.30-0.55]	--	--
Cam3.II <sup>WT</sup>	Rab5A / MitoTracker Deep Red	DMSO	6h	12	0.37 [0.23-0.45]	--	--
		DHA (700 nM)	6h	14	0.44 [0.21-0.56]	--	--
Cam3.II <sup>R539T</sup>	Rab11A / MitoTracker Deep Red	DMSO	6h	14	0.29 [0.17-0.70]	--	--
		DHA (700 nM)	6h	15	0.45 [0.18-0.71]	--	--
Cam3.II <sup>WT</sup>	Rab11A / MitoTracker Deep Red	DMSO	6h	13	0.10 [0.00-0.57]	--	--
		DHA (700 nM)	6h	11	0.35 [0.06-0.43]	--	--

<sup>1</sup>Very early ring-stage parasites (0-3 hpi) were pulsed with indicated compound(s) for 4 or 6h, after which compound(s) was/were removed by washout.

<sup>2</sup>N, number of individual parasites used for analyses. Individual parasites were analyzed from one to two independent experiments.

ATQ, atovaquone; DHA, dihydroartemisinin; DMSO, dimethyl sulfoxide; IQR, interquartile range; PCC, Pearson correlation coefficient.