

Supplementary Tables for Manuscript:

Full title: **Monocyte polarization in children with falciparum malaria: relationship to nitric oxide insufficiency and disease severity**

Condensed title: **Monocyte activation and malaria in children**

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Supplementary Table 1. Bivariate and multivariate logistic regression analysis of soluble CD163 as independently associated with increased odds of severe malaria

Variable	N	Bivariate OR (95% CI)	p value	Multivariate OR (95% CI)	p value
Soluble CD163^A	94	2.54 (1.12-5.76)	0.025	4.68 (1.31-16.68)	0.017
Lactate	155	1.70 (0.89-3.27)	0.110	--	>0.05 ^B
Hemoglobin	203	0.84 (0.74-0.96)	0.012	--	>0.05 ^B
Absolute Monocyte Count	173	1.60 (0.89-2.85)	0.111	--	>0.05 ^B
Weight	204	0.97 (0.90-1.04)	0.396	--	>0.05 ^B
Age	205	0.98 (0.82-1.16)	0.780	--	>0.05 ^B
Sex	205	1.22 (0.69-2.17)	0.491	--	>0.05 ^B

Note that soluble CD163, lactate, and absolute monocyte count values were log-transformed for regression analysis. There were 52 observations included in multivariate model.

A = Based on bivariate analysis, IL-10 (OR 1.31 [95% CI 0.91-1.75]; p=0.067) and CCL22 (OR 0.46 [95% CI 0.22-0.95]; p=0.036) should have been included in the multivariate model. However, inclusion of either of these variables decreased the total number of observations in the final multivariate model to 28. No other cytokine/chemokines had p-values <0.15 on bivariate logistic regression.

Supplementary Table 2. Bivariate and multivariate logistic regression analysis of plasma IL-10 as independently associated with increased odds of severe malaria

Variable	N	Bivariate OR (95% CI)	p value	Multivariate OR (95% CI)	p value
IL-10	84	1.31 (0.98-1.75)	0.067	1.42 (1.03-1.96)	0.032
Lactate	155	1.70 (0.89-3.27)	0.110	--	>0.05 ^B
Hemoglobin	203	0.84 (0.74-0.96)	0.012	--	>0.05 ^B
Absolute Monocyte Count	173	1.60 (0.89-2.85)	0.111	--	>0.05 ^B
Weight	204	0.97 (0.90-1.04)	0.396	--	>0.05 ^B
Age	205	0.98 (0.82-1.16)	0.780	--	>0.05 ^B
Sex	205	1.22 (0.69-2.17)	0.491	--	>0.05 ^B

Note that IL-10, lactate, and absolute monocyte count values were log-transformed for regression analysis. There were 70 observations included in multivariate model.

A= Based on bivariate analysis, sCD163 (OR 2.54 [95% CI 1.12 - 5.76]; p=0.025) and CCL22 (OR 0.46 [95% CI 0.22 - 0.95]; p=0.036) should have been included in the multivariate model. However, inclusion of either of these variables decreased the total number of observations in the final multivariate model to 28. No other cytokine/chemokines had p-values <0.15 on bivariate logistic regression.

B = included in multivariate logistic regression analysis, but not retained in the final model due to p-value > 0.05 in multivariate analysis.

Supplementary Table 3. Bivariate and multivariate logistic regression analysis of arginase activity as independently associated with increased odds of severe malaria

Variable	N	Bivariate OR (95% CI)	p-value	Multivariate OR (95% CI)	p-value
Arginase	171	1.31 (0.91-1.89)	0.067	--	>0.05 ^A
Lactate	155	1.70 (0.89-3.27)	0.110	--	>0.05 ^A
Hemoglobin	203	0.84 (0.74-0.96)	0.012	0.83 (0.69-0.99)	0.045
Absolute Monocyte Count	173	1.60 (0.89-2.85)	0.111	--	>0.05 ^A
Weight	204	0.97 (0.90-1.04)	0.396	--	>0.05 ^A
Age	205	0.98 (0.82-1.16)	0.780	--	>0.05 ^A
Sex	205	1.22 (0.69-2.17)	0.491	--	>0.05 ^A

Note that arginase, lactate, and absolute monocyte count values were log-transformed for regression analysis. There were 116 observations included in multivariate model.

A = included in multivariate logistic regression analysis, but not retained in the final model due to p-value > 0.05 in multivariate analysis.

Supplementary Table 4. Primers and probes

Gene	Forward Primer	Reverse Primer	Probe	Probe cat#	ProbeSeq
NOS2a	tgaggaccacatctaccagga	caggatgtcctgaacatagacct	67	4688660001	tgctggag
ARG1	acatcacagaagaaatctacaaaacag	tgctgtgtcactgttcgagt	60	4688589001	tggggaag
ARG2	cgggggactaacctatcgag	ttcaacaagatccagtgtga	73	4688961001	gctgagga
GAPDH	agccacatcgctcagacac	gccaatacgaccaaacc	60	4688589001	tggggaag
HPRT1	tgacctgattatattgcatacc	cgagcaagacgttcagtcct	73	4688961001	gctgagga

Primers and probes were designed using Universal Probe Library Assay Design Center on Roche website

<http://universalprobelibrary.com/>

Probes were purchased from Roche Universal Probe Library, and primers.