

Fluxes in 'Free' and Total Zinc are Essential for Progression of Intraerythrocytic Stages of *Plasmodium falciparum*

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A. XFM

	atoms ($\times 10^6$)	$\mu\text{g}/\text{cm}^2$	mean ROI area
RBC	11.8 ± 0.6	0.00274 ± 0.00015	$48 \mu\text{m}^2$
Ring-infected RBC	9.0 ± 1.3	0.00147 ± 0.00026	$70 \mu\text{m}^2$
Trophozoite-infected RBC	19.8 ± 2.8	0.00356 ± 0.00053	$62 \mu\text{m}^2$
Schizont-infected RBC	41.7 ± 9.5	0.00656 ± 0.00130	$67 \mu\text{m}^2$
Schizont-infected RBC + TPEN	10.0 ± 1.1	0.00193 ± 0.00024	$59 \mu\text{m}^2$

B. ICP-MS

	RBC	Infected RBC	Media
Mg	$1.8(2) \times 10^{-3} \text{ M}$	$4.3(7) \times 10^{-3} \text{ M}$	$3.5(2) \times 10^{-4} \text{ M}$
Ca	$1.0(1) \times 10^{-3} \text{ M}$	$6(2) \times 10^{-3} \text{ M}$	$8(2) \times 10^{-4} \text{ M}$
Fe	$1.5(3) \times 10^{-2} \text{ M}$	$1.4(4) \times 10^{-2} \text{ M}$	$1(2) \times 10^{-6} \text{ M}$
Cu	$1.5(2) \times 10^{-5} \text{ M}$	$3.0(6) \times 10^{-5} \text{ M}$	$1.3(1) \times 10^{-6} \text{ M}$
Zn	$2.5(3) \times 10^{-4} \text{ M}$	$5(1) \times 10^{-4} \text{ M}$	$1.0(1) \times 10^{-6} \text{ M}$

Table S1, related to Figure 1. *P. falciparum* accumulate metals within the erythrocyte host. **A)** Total zinc analysis of infected and uninfected erythrocytes by XFM is summarized. Grams of zinc per unit area ($\mu\text{g}/\text{cm}^2$) are converted to grams using the ROI area of the cell (cm^2). Grams are converted to atoms using the atomic weight of zinc and Avogadro's number. (mean \pm SEM) **B)** Uninfected red blood cells (RBC), late trophozoite- and schizont-infected red blood cells (Infected RBC), and culture media were analyzed for metal concentrations by ICP-MS. Infected red blood cells accumulate more Mg ($p < 0.005$), Ca ($p < 0.05$), Cu ($p < 0.05$) and Zn ($p < 0.05$) than erythrocytes, while Fe concentrations are not statistically different. Concentrations represent the means of three independent cultures (standard error in parenthesis).