

# The cytosolic glyoxalases of *Plasmodium falciparum* are dispensable during asexual blood-stage development

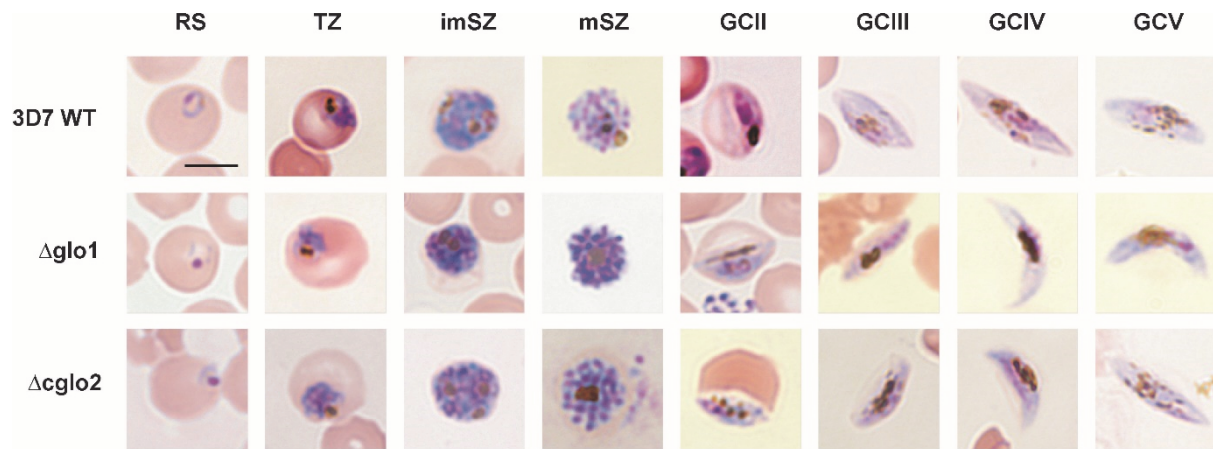
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## Supplementary Materials and Methods

**Table S1.** Primers for cloning and analytical PCR used in this study. Restriction sites are underlined. The mutated start codon in P1 and the gRNA sequences in primers P9-P12 are italicized.

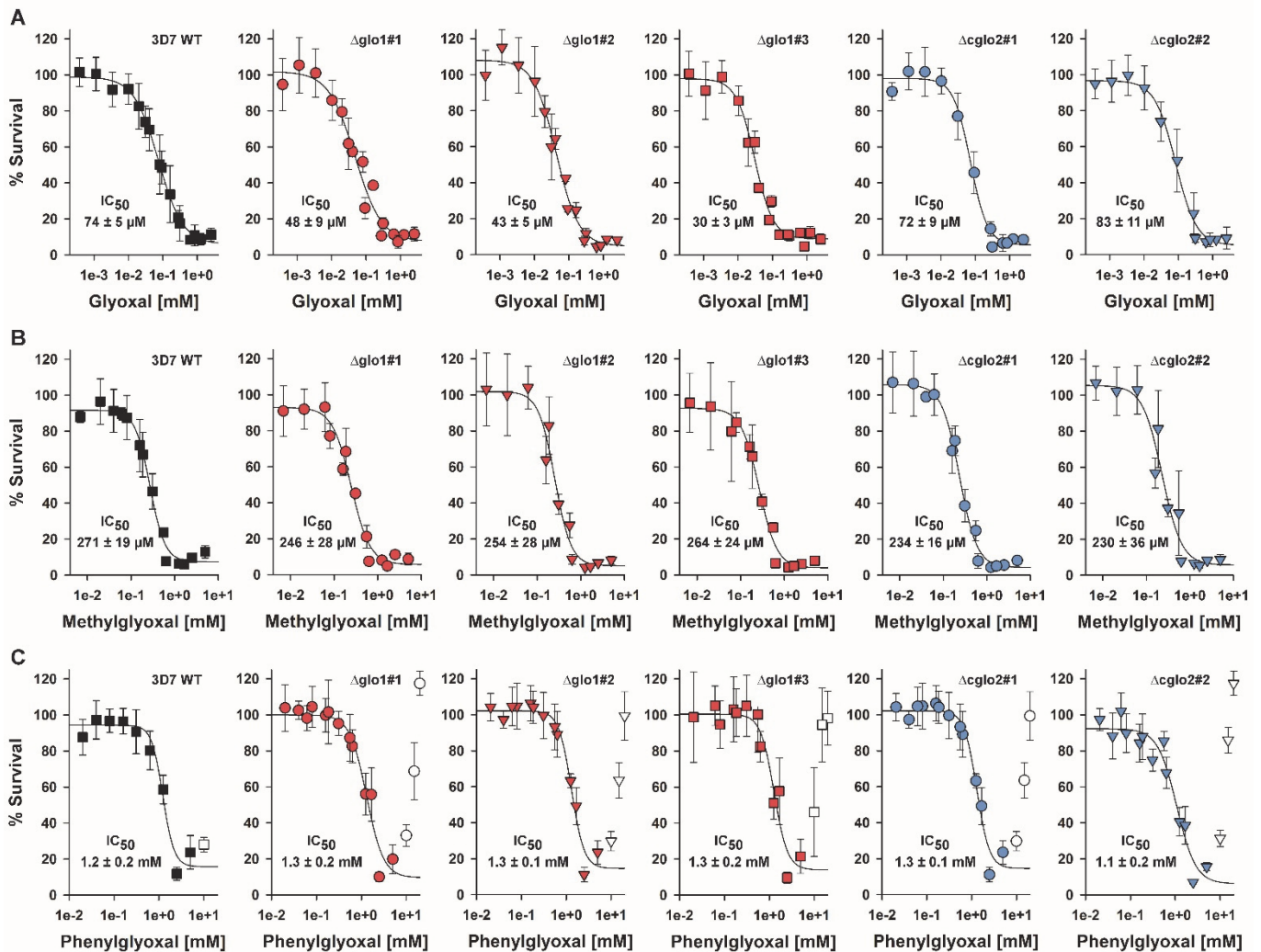
Primer #	Sequence
P1	5' -GATC <u>CCGCGG</u> <i>ATT</i> GCACAAGAAATATCAAATTTAG-3'
P2	5' -GATC <u>TCTAGACCAATAATTATTAGGATCTAAAGC</u> -3'
P3	5' -GATC <u>GAATTCCAATGATTAGGGTTAAGAACCC</u> -3'
P4	5' -GATC <u>CCATGGT</u> TTTGCAATAAATGAAGTGTCCC-3'
P5	5' -GATC <u>CCGCGGGTAGCCATGCGCACAAGTAC</u> -3'
P6	5' -GATC <u>TCTAGATTGGTTCATATGCTGATCCGAC</u> -3'
P7	5' -GATC <u>GAATTC</u> CGACGGTCAAATTATACGTTTAG-3'
P8	5' -GATC <u>CCATGGT</u> TAAGGGTATACTCATGTCCGC-3'
P9	5' -TAAGTATATAATATT <i>AAAGATCCAATCAAGTTAAAG</i> TTTTAGAGCTAGAA-3'
P10	5' -TTCTAGCTCTAAAAC <i>TTTAACTTGATTGGATCTTTA</i> ATATTATATACTTA-3'
P11	5' -TAAGTATATAATATT <i>TACTTTCTCGTTTACACCTG</i> TTTTAGAGCTAGAA-3'
P12	5' -TTCTAGCTCTAAAAC <i>CAGGTGTAACGAGAAAGTA</i> ATATTATATACTTA-3'
P13	5' -CTCTTGGAGAACTCGCTGATCTG-3'
P14	5' -ACCGAGATTACCCTGGCCAACG-3'
P15	5' -GTGAGTATAGATCCTCATAACAACCTTACG-3'
P16	5' -CATTGAATAATTGTGCATATATGATATACACAC-3'
P17	5' -CCTTTCTCCTCCTGGACATC-3'
P18	5' -CATGGTTCGCTAAACTGCATC-3'
P19	5' -CGAGGATATGATTTCTTTATTTTTATAACC-3'
P20	5' -AATCCTTATAAACAGTGACACATTACAC-3'

**Figure S1**



**Fig. S1.** Morphology of the 3D7 $\Delta$ glo1 and 3D7 $\Delta$ cgl2 asexual blood and gametocyte stages. Giemsa smears of ring stages (RS), trophozoites (TZ) and immature (imSZ) and mature (mSZ) schizonts as well as of gametocytes (GC) of stages II-V were microscopically analyzed and compared to the wild-type 3D7 blood stage parasites. Bar, 5  $\mu$ m.

**Figure S2**



**Fig. S2.** Growth inhibitory effects of exogenous 2-oxoaldehydes on synchronous ring-stage cell cultures of *P. falciparum* wild-type strain 3D7 and clonal 3D7Δglo1 and 3D7Δcglyo2 knockout strains. The initial hematocrit and parasitemia were 1.5% and 0.5%, respectively. IC<sub>50</sub> values were determined in 96-well plates using a SYBR green 1 assay for bolus treatments with (A) glyoxal, (B) methylglyoxal and (C) phenylglyoxal after 72 h incubation. All data points are the mean ± S.D. from technical triplicate measurements of three to seven independent experiments. Data points at phenylglyoxal concentrations ≥10 mM were omitted because of a strong autofluorescence. The IC<sub>50</sub> values are summarized in Fig. 4.