

Glutathione and trypanothione in several strains of *Trypanosoma cruzi*: Effect of drugs

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Glutathione (GSH), trypanothione (T(SH)₂) and glutathionyl spermidine (GSH-SP) concentrations were determined in the Tulahuen and LQ strains and the DM 28c clone of *Trypanosoma cruzi*. The concentrations of GSH, T(SH)₂ and GSH-SP, expressed as nmol of GSH per g of parasite fresh weight, were 60.1, 397.8 and 103.9, respectively, for the Tulahuen strain. For the DM 28c clone, the values were 113.9, 677.9 and 164.1, respectively, and for the LQ strain they were 199.1, 1100.5 and 55.3, respectively. When the parasites were treated with 10 μ M nifurtimox or 50 μ M benznidazole for 2 h, the concentrations of all three reduced thiols decreased strongly. The total amount of T(SH)₂ decreased by more than 50%. Treatment of the parasites with 5 mM buthionine sulfoximine, an inhibitor of GSH synthesis, for 6 h diminished the concentrations of the reduced thiols by between 27% and 53% with respect to the controls. Cyclohexylamine, an inhibitor of spermidine synthesis, decreased the concentrations of T