

Endogenous overexpression of an active phosphorylated form of DNA polymerase γ under oxidative stress in *Trypanosoma cruzi*

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© 2018 Rojas et al. *Trypanosoma cruzi* is exposed during its life to exogenous and endogenous oxidative stress, leading to damage of several macromolecules such as DNA. There are many DNA repair pathways in the nucleus and mitochondria (kinetoplast), where specific protein complexes detect and eliminate damage to DNA. One group of these proteins is the DNA polymerases. In particular, Tc DNA polymerase γ participates in kinetoplast DNA replication and repair. However, the mechanisms which control its expression under oxidative stress are still unknown. Here we describe the effect of oxidative stress on the expression and function of Tc DNA polymerase γ . To this end parasite cells (epimastigotes and trypomastigotes) were exposed to peroxide during short periods of time. Tc DNA polymerase γ which was associated physically with kinetoplast DNA, showed increased protein levels in response to peroxide damage in both parasite forms analyzed. Two forms of DNA polymerase γ were identified and ove