HETEROLOGOUS EXPRESSION OF A RECOMBINANT THIOREDOXIN 1 OF *PARACOCCIDIOIDES BRASILIENSIS*

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Introduction and Objectives: The dimorphic fungus *Paracoccidioides brasiliensis* is the etiological agent of Paracoccidioidomycosis (PCM), a human systemic mycosis highly prevalent in countries of Latin America. *P. brasiliensis* is subjected to different insults from human host during the infection. Thioredoxin functions as a self-defense mechanism in response to oxidative stress. The main objective of this work is to produce the recombinant Thioredoxin1. **Results and conclusions:** A cDNA sequence identified as a Thioredoxin1 was obtained from a cDNA library. This cDNA presents 811 bp, coding for a protein with predicted molecular mass of 12 kDa and p*I* 5.2. This putative protein presented one highly conserved active site motif (WCGPC). The prediction of the secondary structure of Thioredoxin1 showed a pattern characteristic of the open twisted alpha/beta. The expression and purification of the recombinant protein was obtained. The recombinant protein presented a molecular mass of 38 kDa. The recombinant protein and the yeast cells extract showed insulin reduction activity. The level of *Pb*trx1 transcripts was higher in yeast cells treated with H_2O_2 than in yeast cells no treated. Our results suggest that Thioredoxin1 may play an important role in *P. brasiliensis* survival in the host. Financial support: CNPq and FUNAPE-UFG