

INHIBITORS OF ELECTRON TRANSPORT CHAIN AFFECT TRANSITION OF P. brasiliensis MYCELIUM TO YEAST, AND INCREASE OXIDATIVE STRESS AND *aoxPb* GENE EXPRESSION

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Paracoccidioides brasiliensis, a thermally dimorphic fungus, is the etiological agent of endemic paracoccidioidomycosis, one of the most prevalent human systemic mycosis in Latin America. To verify the effects of inhibitors of mitochondrial respiratory chain on the transition of mycelium to yeast in *P. brasiliensis*, mycelium cells were cultured at 37°C in the presence of the electron transport pathways inhibitors antimycin A, cyanide, rotenone and SHAM (an alternative oxidase inhibitor). Cyanide delayed the starting of form transition by 24 hours, antimycin A and SHAM by 120 hours and the associations cyanide/SHAM and antimycin/SHAM caused a complete inhibition of transition. In addition, reactive oxygen species (ROS) generation, as assessed by CM-H₂DCFDA, was increased in presence of the inhibitors, as well as gene expression of alternative oxidase in yeast cells, as assessed by Real-Time PCR. These results suggest that mitochondrial function affects cell morphological changes and cell oxidative conditions in *P. brasiliensis*.

Key words: *P. brasiliensis*, mitochondria, alternative oxidase.

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