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## CHARACTERIZATION OF TWO RHO GENES FROM PARACOCCIDIODES BRASILIENSIS

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*Paracoccidioides brasiliensis* is the causative agent of paracoccidioidomycosis, a systemic mycosis restricted geographically to Central and South America. It is a dimorphic fungus which undergoes a mycelial (M) to yeast (Y) transition in a temperature-dependent way. Rho GTPases are key regulatory proteins during fungal morphogenesis. In *Saccharomyces cerevisiae*, *Candida albicans* and *Aspergillus fumigatus*,  $\beta$ -1,3-glucan synthase is regulated by Rho1 [1-3]. In *Schizosaccharomyces pombe*, Rho1 and Rho2 regulate the syntheses of  $\beta$ -1,3-glucan and  $\alpha$ -1,3-glucan, respectively [4]. We identified and cloned two different RHO genes from *P. brasiliensis* by PCR and colony hybridization [5]. Intron confirmation was performed by RT-PCR (Life Technologies, Rockville, USA). Sequence analysis revealed that translations of both putative *P. brasiliensis* DNA fragments resembled either Rho1 or Rho2 proteins, by comparison to other fungal Rho GTPases [6]. Therefore, the putative *P. brasiliensis* RHO genes were designated *PbrRHO1* and *PbrRHO2*. *PbrRHO1* presents a size of 950 bp, with an open reading frame (ORF) of 573 bp, interrupted by four introns. *PbrRHO2* is 957 bp long, showing a discontinuous ORF of 612 bp with four introns. The deduced sequences of these genes show 191 and 204 amino acids for Rho1 and Rho2, respectively. Expression studies and complementation in *S. cerevisiae rho* null mutants are under progress. The sequences of the *P. brasiliensis RHO1* (accession number AY392528) and *RHO2* (accession number AY496954) have been deposited in GenBank.

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