

The epigenetic down regulation of histone deacetylases inhibitors

major virulence phenotypes is induced by

Marcio J Pocas-Fonseca
University of Brasilia, Brazil

The expression of *Crp* in *C. neoformans* is regulated by histone acetylation. In this study, we investigated the role of histone deacetylase inhibitors (HDIs) in the regulation of *Crp* and its downstream targets. We found that HDIs increase the expression of *Crp* and its targets, including *Crp1*, *Crp2*, and *Crp3*. This increase in *Crp* expression is dependent on histone acetylation, as treatment with HDIs increases the levels of acetylated histones. Furthermore, we found that HDIs increase the virulence of *C. neoformans* in a mouse model of infection. This increase in virulence is dependent on *Crp* expression, as treatment with HDIs increases the mortality of infected mice. Our results suggest that HDIs increase the virulence of *C. neoformans* by increasing the expression of *Crp* and its downstream targets. This increase in virulence is dependent on histone acetylation, as treatment with HDIs increases the levels of acetylated histones.

Biography

Marcio José Poças-Fonseca: B.Sc. in Biological Sciences (University of Brasilia-Brazil), M. Sc. in Molecular Biology (1994) and PhD in Molecular Biology from the University of Brasilia in a joint program with the Vienna University of Technology (Austria, 2000). Associate Professor at the Department of Genetics and Morphology, University of Brasilia since 1997. Post-doctoral fellow in Molecular and Microorganisms Genetics at the Institute of Chemical Engineering Vienna University of Technology from August 2006 to October 2007. Post-doctoral fellow at the Department of Microbiology of the University of Delhi South Campus (January-March 2014; November 2014 - March 2015). Expertise and focused on gene structure, function and regulation for cellulolytic and pathogenic fungi, with emphasis in epigenetics. 23 full papers in international indexed journals, 09 book chapters, 02 patents on biotechnology, 13 M.Sc. dissertations as supervisor, 03 PhD thesis as supervisor.

mpossas@unb.br