

## 1.4 Proteómica en hongos – Fungus proteomics

Moreira André, Borges Clayton.  
Laboratório de Biologia Molecular, Instituto de Ciências Biológicas,  
Universidade Federal de Goiás, Goiânia, Goiás, Brazil.

**Resumen:** The proteomic is a powerful mass spectrometry approach to analyze large-scale of proteins, called proteomes. The mass spectrometry is a powerful, high-throughput and sensitive approach that measures the mass-to-charge ratio of ions and presents the results as a mass spectrum. The mass spectrum is submitted to a databank in order to identify the proteins. The thermo-dimorphic fungi *Paracoccidioides spp* are the etiologic agents of paracoccidioidomycosis (PCM), the most prevalent mycosis in Latin America. Currently, the genus *Paracoccidioides* is represented by *P. lutzii*, *P. americana*, *P. brasiliensis*, *P. restrepiensis* and *P. venezuelensis*. The genetic variability in *Paracoccidioides* species may reflect in the biology, virulence, and antigenic profile of the fungus. The secreted proteins may contribute in these differences. The PCM diagnostic rapid is still a problem, even with the advances in immunological techniques used for fungal diseases, false-positive results rates for PCM are present. In this work we characterize the antigens secreted by 4 species of the *Paracoccidioides* complex by using nanoUPLC-MS<sup>E</sup>. It was possible to identify 79 exoantigens in 4 *Paracoccidioides* species. *In silico* analysis revealed 3 exoantigens exclusive to *P. lutzii* species, as well as the identification of 44 unique B-cell epitopes of the *Paracoccidioides* complex. In addition, thirteen exclusive epitopes distributed among *Paracoccidioides* species were identified and are excellent molecules to be employed in the future epidemiological studies. These analyzes allowed us the identification of new candidate biomarkers to PCM diagnosis, as well as the identification of molecules to be used as future epidemiological biomarkers.

**Palabras Claves:** proteomics, pathogenic fungus, exoproteome, diagnostic.