

Immunoproteomics of *Aspergillus* for the development of biomarkers and immunotherapies.

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Abstract

Filamentous fungi of the genus *Aspergillus* play significant roles as pathogens causing superficial and invasive infections as well as allergic reactions in humans. Particularly invasive mycoses caused by *Aspergillus* species are characterized by high mortality rates due to difficult diagnosis and insufficient antifungal therapy. The application of immunoproteomic approaches has a great potential to identify new targets for the diagnosis, therapy, and vaccine development of diseases caused by *Aspergillus* species. Serological proteome analyses (SERPA) that combine 2D electrophoresis with Western blotting are still one of the most popular techniques for the identification of antigenic proteins. However, recently a growing number of approaches have been developed to identify proteins, which either provoke an antibody response or which represent targets of T-cell immunity in patients with allergy or fungal infections. Here, we review advances in the studies of immune responses against pathogenic *Aspergilli* as well as the current status of diagnosis and immunotherapy of *Aspergillus* infections.

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