

5th International Congress on

INFECTIOUS DISEASES

March 01-02, 2018 Berlin, Germany

Pharmacoproteomics of *Aspergillus fumigatus* for identification of novel molecular targets having application immuno diagnosis and therapy

Rambir Singh and Poonam Sharma

¹Bundelkhand University, India²Indira Gandhi National Tribal University, India

Aspergillosis has emerged as threat to public health in recent past. Early stage diagnosis of aspergillosis has been difficult. There are limited options of effective drugs for treatment and invasive infections are always fatal. Importantly, clinical symptoms of aspergillosis overlap with those of TB. This often leads to misdiagnosis of aspergillosis as TB and wrong treatment. Hence, early diagnosis of aspergillosis is essentially needed. Currently, available late stage antigen based serological tests have limited diagnostic efficacy. Hence, there is urgent need for identification of novel molecules of diagnostic and therapeutic relevance. While working with Indian (ITCC-6604) and German (DAYA) strains of *A. fumigatus*, we were able to identify 111 cytosolic proteins spots from 2D gels. Out of these 111 protein spots, 66 proteins have been identified on comparison with available protein databases. Immuno-proteomics studies on these cytosolic proteins showed the presence of highly immunodominant IgG and IgE reactive proteins. Characterizations of these proteins have immense application in immuno-diagnosis and therapy of aspergillosis.

Biography

Rambir Singh completed his PhD in Biomedical Sciences (Infection Biology) from University of Delhi, India in 2004. After completing PhD, he joined Bundelkhand University, Jhansi, India, as an Assistant Professor in Biochemistry where currently he is working as Associate Professor in Biomedical Sciences. He is teaching microbiology, biochemical techniques and natural plant product based drug discovery at undergraduate and postgraduate level. He is working in the research area of 'Bioactive molecules from Ayurvedic medicinal plants, health effects of probiotics and proteomics of *Aspergillus fumigatus*'.

sehrawat_r@yahoo.com

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