

Interference of *Aspergillus fumigatus* with the immune response.

Heinekamp T, Schmidt H, Lapp K, Pätz V, Shopova I, Köster-Eiserfunke N, Krüger T, Kniemeyer O, Brakhage AA (2015) Interference of *Aspergillus fumigatus* with the immune response. *Semin Immunopathol* 37(2), 141-152. (Review)

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Abstract

Aspergillus fumigatus is a saprotrophic filamentous fungus and also the most prevalent airborne fungal pathogen of humans. Depending on the host's immune status, the variety of diseases caused by *A. fumigatus* ranges from allergies in immunocompetent hosts to life-threatening invasive infections in patients with impaired immunity. In contrast to the majority of other *Aspergillus* species, which are in most cases nonpathogenic, *A. fumigatus* features an armory of virulence determinants to establish an infection. For example, *A. fumigatus* is able to evade the human complement system by binding or degrading complement regulators. Furthermore, the fungus interferes with lung epithelial cells, alveolar macrophages, and neutrophil granulocytes to prevent killing by these immune cells. This chapter summarizes the different strategies of *A. fumigatus* to manipulate the immune response. We also discuss the potential impact of recent advances in immunoproteomics to improve diagnosis and therapy of an *A. fumigatus* infection.

Involved units

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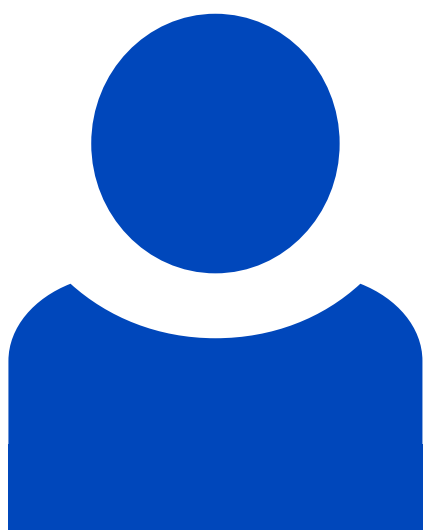
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