

## Prof. Nir Osherov, Ph.D.

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# Human Mold Infections

#### Positions

Associate Professor, Sackler Faculty of Medicine

Chair, Department of Human Microbiology and Immunology

Chair, M.Sc. Committee, Sackler School of Medicine

Director, Ella Kodesz Institute of Host Defense against Infectious Diseases

#### Research

Aspergillus fumigatus is the most common mold pathogen of human beings, causing invasive diseases in immunocompromised (cancer after chemotherapy, bone marrow transplant etc) patients. Poor diagnostic tools and the ineffectiveness of antifungal drugs against established *Aspergillus* infections combine to result in high mortality following *A. fumigatus* infection. Left untreated, mortality rates from invasive pulmonary aspergillosis (IPA) exceed 90% and even following aggressive antifungal treatment fatality rates of 50-70% are common.

The goals of my lab are:

To understand what enables this mold to be such an effective and dangerous pathogen of immunocompromised patients To develop novel modes of treatment including new antifungal compounds, targeted antibodies and nano medicines.

### Publications

Vaknin Y, Shadkchan Y, Levdansky E, Morozov M, Romano J, **Osherov N**. The three Aspergillus fumigatus CFEM-domain GPI-anchored proteins (CfmA-C) affect cell-wall stability but do not play a role in fungal virulence. *Fungal Genet Biol*. 2014;63:55-64.

**Osherov N**. Interaction of the pathogenic mold *Aspergillus fumigatus* with lung epithelial cells. *Front Microbiol*. 2012, 26:346.

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#### Reviews

**Osherov N**. The top three areas of basic research on *Aspergillus fumigatus* in 2011. *Ann N Y Acad Sci.* 2012, 1273:74-7.

Tavanti A, Naglik JR, **Osherov N**. Host-Fungal Interactions: Pathogenicity versus Immunity. *Int J Microbiol*. 2012, 562480.

#### Grants

2012- 2016	Binational Science Foundation
2014-2016	Israel-Italy Cooperation Grant-
2014-2017	Infect-ERA Net Joint European Grant