Hsp21 potentiates antifungal drug tolerance in *Candida albicans*.

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Projects

Identification and characterization of infection-associated genes in *Candida albicans*
Details

Abstract

Systemic infections of humans with the fungal pathogen Candida albicans are associated with a high mortality rate. Currently, efficient treatment of these infections is hampered by the relatively low number of available antifungal drugs. We recently identified the small heat shock protein Hsp21 in C. albicans and demonstrated its fundamental role for environmental stress adaptation and fungal virulence. Hsp21 was found in several pathogenic Candida species but not in humans. This prompted us to investigate the effects of a broad range of different antifungal drugs on an Hsp21-null C. albicans mutant strain. Our results indicate that combinatorial therapy targeting Hsp21, together with specific antifungal drug targets, has strong synergistic potential. In addition, we demonstrate that Hsp21 is required for tolerance to ethanol-induced stress and induction of filamentation in response to pharmacological inhibition of Hsp90. These findings might pave the way for the development of new treatment strategies against Candida infections.

Identifier

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