

# New drug target emerges for a dangerous fungal pathogen

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*Cryptococcus neoformans* is a fungal pathogen usually affecting immunocompromised patients, particularly AIDS and organ transplant patients, and is one that can be lethal. Current treatments against cryptococcosis are often not effective. Now a team of researchers led by Stony Brook University scientists Mansa Munshi and Maurizio Del Poeta in the Department of Molecular Genetics & Microbiology, have discovered a novel gene that helps understand the mechanism of survival of this pathogen in various host conditions.

Their finding, published in *Cell Reports*, may help pave the way for more effective and innovative treatments against cryptococcosis.

When *C. neoformans* survives in a host, disease results. In the paper, the team details how they uncovered that ceramides (a class of lipid molecules) play a role in the pathogenicity of *C. neoformans*. They identified a new gene within this process, called Cer1, which synthesizes ceremides. By targeting Cer1, pathogenicity in the host is altered.

Munshi and colleagues delete Cer1 from the pathogen, and a mutant form of *C. neoformans* is created that is completely disabled and unable to cause disease. These results have led the team to theorize that Cer1 may be a new drug target in the search for better treatments of cryptococcosis.

**More information:** The Role of Ceramide Synthases in the Pathogenicity of *Cryptococcus neoformans*. *Cell Reports*. DOI:

[doi.org/10.1016/j.celrep.2018.01.035](https://doi.org/10.1016/j.celrep.2018.01.035) |

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