

GLUCOSYLCERAMIDE SYNTHASE: A POSSIBLE REGULATOR OF
PATHOGENICITY OF *CANDIDA ALBICANS*.

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Candida albicans is an opportunistic fungus that causes infection in immunocompromised patients. Previous study with a strain of *C.albicans* (Δ cgt) defective in glucosylceramide (CMH) biosynthesis demonstrated the importance of glycosphingolipids in drug susceptibilities of this pathogen (1). Cholesterol/ergosterol rich-domains as well as sphingolipids, termed lipid rafts, are thought to compartmentalize the plasma membrane and to have important roles in cell physiology (2). In this work, *C. albicans* wild-type and Δ cgt were used to analyze the influence of CMH on aspects such as growth, infectivity and interaction of the yeasts with mice macrophages. The wild-type strain had a higher growth rate compared to the mutant (Δ cgt) and was more resistant to internalization by macrophages in interaction assays. For *in vivo* experiments, two groups of BALB/c mice were infected intravenously with *C. albicans* WT and Δ cgt, respectively. Animals infected with *C. albicans* Δ cgt showed a lower recovering of CFU in organs, suggesting a possible role of CMH in fungal virulence. Mannoproteins extracted from both strains were also studied demonstrating immunoreactivity by ELISA with patient sera and involvement in yeasts phagocytosis by macrophages. Loss of glycosphingolipids can be the main cause of the differences observed between the two strains indicating the relevance of lipid rafts for molecules trafficking.

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2- Wachtler, V.& Balasubramanian, M.K. (2006), Trends in Cell Biology **16** (1): 1-4.