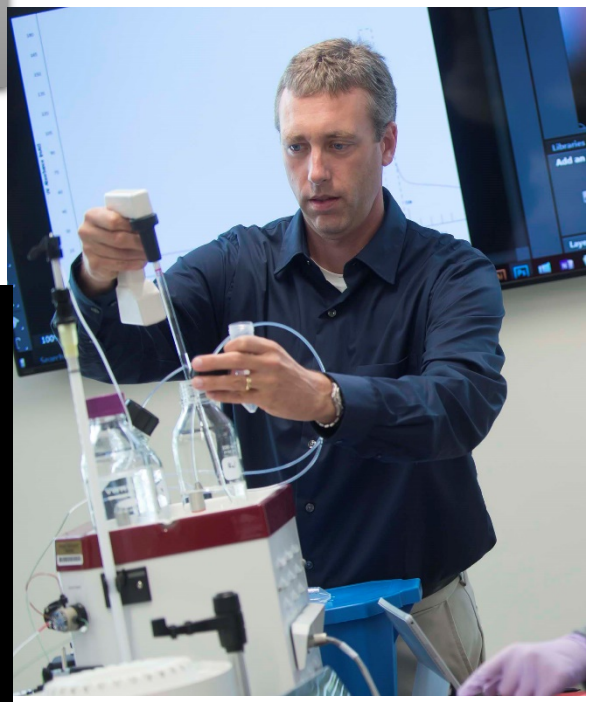
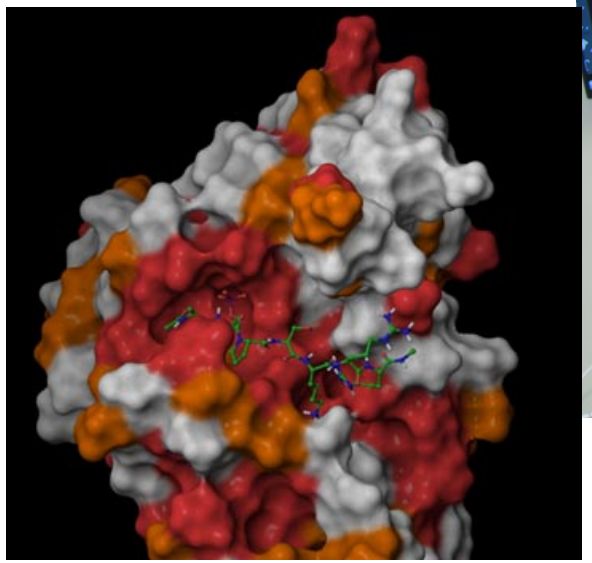
Exploring Cdc14 phosphatase as a novel antifungal therapeutic target



Cdc14 phosphatase was originally characterized as a cell cycle regulator based on work in the budding yeast *Saccharomyces cerevisiae*. Although Cdc14 is highly conserved in most fungi, many of its budding yeast cell cycle regulatory functions are not. In the past few years several groups have reported that Cdc14 orthologs are required for host infection by phytopathogenic fungi. The molecular basis for Cdc14's requirement for pathogenesis in plants is still unknown. My lab has studied Cdc14 from budding yeast for years and some of our recent biochemical discoveries led us to a new function for Cdc14 in promoting integrity of the fungal cell wall. The unique fungal cell wall plays important roles in pathogenesis and is a target of existing antifungal drugs. Surprisingly, this new Cdc14 function appears broadly conserved in the fungal kingdom. In collaboration with the Briggs lab at Purdue and the Correa-Bordes lab in Spain we found that Cdc14 loss in the human fungal pathogen *Candida albicans* causes sensitivity to cell wall stress, including treatment with echinocandin antifungal drugs. Moreover loss of Cdc14 significantly compromises virulence in an animal infection model. In this talk I will present our evidence for this new and conserved role for Cdc14 in fungal cell wall regulation and discuss why we think it might be an attractive target for development of novel antifungals to combat resistance of human fungal pathogens to existing treatments.



Featuring Dr. Mark C. Hall, Biochemistry

Research Spotlight Series:
Wednesday 3/24 @ 9:30am here on Zoom

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