Comparing Normal and Altered Forms of Protein Binding as a Mechanism for Growth in *Candida albicans*

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During my summer research fellowship in the McBride lab, I studied protein binding interactions relevant for the protein-mRNA complex in order to determine mechanisms for mRNA transport in the yeast *Candida albicans*. The yeast *Candida albicans* is prevalent in the human body, and, while generally not harmful, can cause infections in immunocompromised populations. Unlike baker's yeast, *C. albicans* can alternate between a budding form and hyphal (elongated) form that invades host cells. I studied mechanisms for protein binding, looking to determine how growth occurs in the hyphal form given that, in this extended form, the genetic material necessary to make proteins for cell growth (known as mRNA) may be concentrated at one end. Based on previous research, the McBride lab understands that proteins, specifically the proteins She3 and possibly Slr1, bind to certain mRNAs to move them to the tip of the cell to promote growth [1, 2]. We expected that these two proteins, if they were part of the same complex, would copurify in an experiment as they would be bound to each other as a mechanism for transporting genetic material from the nucleus to the tip. We therefore hypothesized that, since an altered form of the Slr1 protein ("alt") is present in greater amounts in the hyphal tip, [1, 2] it