Candida albicans Plasmid Project

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Candida albicans is a commensal fungus that is highly an important human pathogen that is actively researched due to the high mortality in immunocompromised populations. One roadblock in C. albicans research is the lack of molecular tools, in particular replicating plasmids. This project will develop an autonomous replicating plasmid that can replicate and be maintained in C. albicans. Our plasmid will have a C. albicans specific origin of replication and a segregation mechanism allowing the plasmid to be segregated into the daughter cells. We have previously knocked out Ura3 from a strain of C. albicans and our plasmid will express this protein to and in the maintenance of the plasmid in C. albicans. Ura3 is a gene that codes for an enzyme in the uracil pathway required for C. albicans growth. The plasmid will include a multiple cloning site (MCS) that will allow expression of heterologous proteins. The first protein expressed from our plasmid will be the common reporter green fluorescent protein (GFP).