

Characterizing the Growth and Morphology of *C. albicans* after SK-03-92 Treatment

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Candida albicans is a pathogenic fungus that causes life-threatening systemic infections in humans. Its ability to switch morphology from the yeast form to the tissue-penetrating hyphal form is a crucial element in the severity of systemic infections. A novel compound, SK-03-92, is suspected to inhibit the development of *C. albicans*'s hyphal form. To determine if SK-03-92 can inhibit hyphal formation, *C. albicans* will be treated with SK-03-92 while exposed to three hypha-stimulating media. Each medium uses distinct signaling pathways to trigger hyphal morphogenesis in *C. albicans*. Observations of hyphal inhibition on a given medium, along with identification of the signaling pathway that is affected, can then be used to identify pathway-element-encoding genes whose expression levels can be measured by qPCR in SK-03-92 treated cells. Preliminary evidence has shown that hyphal morphogenesis via the cAMP-PKA pathway has been interrupted by SK-03-92 treatment, generating a subset of gene candidates whose expression will be measured. The results of this study will answer questions about the ability of SK-03-92 to inhibit hyphal morphogenesis in *C. albicans*, the gene dysregulation that may aid in that hyphal inhibition, and about whether SK-03-92 has the potential to be used as a tool in *C. albicans* systemic infections.