

2020NorthElena-abstract

## Abstract

*Candida viswanathii* is a fungus that efficiently produces long-chain dicarboxylic acids, which are useful in petrochemical production. It is closely related to *Candida tropicalis*, a prominent human fungal pathogen. Because CRISPR has been implemented in other *Candida* species, particularly *Candida albicans*, I hypothesized that a similar CRISPR-mediated genome editing method could be developed for *C. viswanathii*. I have sequenced the *C. viswanathii* genome and identified guide sequences for *ADE2* and *CYP52*. I then cloned these sequences into a vector that also expresses the Cas9 nuclease. I cotransformed these vectors along with a repair template that will introduce stop codons when incorporated into *ADE2* and *CYP52* of *C. viswanathii*. I was able to obtain many transformants, and I am now determining if these transformants have incorporated the repair template. My ultimate goal is to work in collaboration to determine why and how *C. viswanathii* makes long-chain dicarboxylic acids.

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