Knockout of Elp3 Gene in Candida Albicans

David McGee *, Biological and Physical Sciences, MSU Billings, MT
Cody Walters, Biological and Physical Sciences, MSU Billings, MT
Joy Goffena, Biological and Physical Sciences, MSU Billings, MT
Lynn George, Biological and Physical Sciences, MSU Billings, MT
David Butler, Biological and Physical Sciences, MSU Billings, MT

*Indicates Presenter

Familial Dysautonomia (FD) is a devastating neurodegenerative childhood disease characterized by diminished polarized growth of autonomic neurons. FD results from a mutation in the ELP1 gene and reduced levels of the corresponding protein ELP1, a scaffolding protein that assembles a multi-subunit complex called Elongator. Elongator functions in the modification of tRNAs that mediate efficient translation of AA- and AG-ending codons. The Elongator complex also includes the ELP3 protein, a catalytic subunit of the complex. We are using hyphal growth in the fungus Candida albicans to model the role of Elongator in polarized growth. In this study C. albicans was genetically modified to knockout the ELP3 gene. As with the ELP1 gene, the absence of the ELP3 is expected to eliminate Elongator function. We have found that knocking out ELP3 mitigates the polarized growth of hyphal filaments under certain growth conditions.