Dina P. Matheos

The Role of Fus3p in Cell Fusion

[The MAP kinase Fus3p has an uncharacterized role in cell fusion during mating that we propose to investigate by identifying the cellular substrates of Fus3p.]

Just as humans rely on sexual cycle for reproduction, so does the budding yeast *Sccharomyces cerevisiae.* And just as humans rely on sperm and egg cell fusion event, two haploid yeast cells require a cell fusion event in order to complete conjugation. Cell fusion is a particularly important step in sexual reproduction as inappropriate cell fusion events can lead to cell lysis and death. This research aims at understanding the role of one particular protein, the MAP kinase Fus3p. MAP kinases have been implicated in various types of cancer, but their multifaceted roles in the cell make them inherently difficult to study. Using yeast as a model system, we propose to study cell fusion and the role that Fus3p plays in this process. From this research, direct parallels to MAP kinase function in higher eukaryotes can be made and will protentially aid in understanding some of the underlying causes of cancer.