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*2004 Program
New Investigator (3-year project)*

Project Title: Analysis of the Function of Phosphatase 2A in DNA Damage Response

Project Summary: Cancer develops when cells in a part of the body begin to grow out of control. Cancer cells develop because of damage to DNA. Many times a person's DNA becomes damaged by exposure to something in the environment, like smoking. When DNA becomes damaged, the cells stop cell division until they repair the damaged DNA. This project aims to understand the role of phosphatase 2A in DNA damage response. As PP2A is a well-conserved phosphatase, the proposed research in budding yeast will reveal the function of PP2A in DNA damage response in human cells. Smoking is a major cause of lung cancer, as tobacco smoking is associated with the increased formation of DNA lesions. Therefore, the intact DNA damage response pathways will be very important for DNA damage repair in some cells of smokers. As PP2A is required for the DNA damage response, the results of our research will provide new insights into the development of cancer diagnosis and treatment.