Summer Student Research Program
Project Description

FACULTY SPONSOR’S NAME AND DEGREE: Katsunori Sugimoto PhD
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PROJECT TITLE (200 Characters max):
DNA damage checkpoint, repair, telomere and cancer

HYPOTHESIS:
We have recently published a paper showing that telomere-binding proteins inhibit localization of checkpoint proteins to DNA ends. We extend analysis to determine which domains of the proteins are important. Accumulation of DNA damage or genetic instability on chromosomes and telomeres is a key event for carcinogenesis. This work therefore contributes to better understanding of carcinogenesis.

PROJECT DESCRIPTION (Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)

We will determine domains of telomere binding proteins, which inhibit localization of DNA repair or checkpoint proteins to telomeres. We will also screen and characterize novel genes involved in DNA damage checkpoint and repair using yeast cells. We will use various molecular and genetic methods. We will use budding yeast cell as a model system.

SPONSOR’S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:

Role of budding yeast Rad18 in repair of HO-induced double-strand breaks.
Hirano Y, Reddy J, Sugimoto K.
PMID: 18824138 [PubMed - in process]

Mr. Reddy was a 2008 summer student.

IS THIS PROJECT SUPPORTED BY EXTRAMURAL FUNDS?
No
(IF YES, PLEASE SUPPLY THE GRANTING AGENCY’S NAME)

THIS PROJECT IS: ☐ Laboratory

THIS PROJECT EMPLOYS RADIOISOTOPES
No

THIS PROJECT INVOLVES THE USE OF ANIMALS  No

PENDING ☐       APPROVED ☐     IACUC PROTOCOL #

THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS  No
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PENDING □  APPROVED □  IRB PROTOCOL # M

WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?

_Students can learn basic molecular biology and genetic techniques and thinking methods_