PROJECT TITLE (200 Characters max):
Cell Transformation by the Crk Oncogene

HYPOTHESIS:
We are studying the molecular and cellular processes by which normal cells become cancerous cells through the activation of oncogenes. The v-Crk oncogene contains modular domains, originally described in Src, called Src homology 2 (SH2) and Src homology 3 (SH3) domains, that are involved in protein-protein interactions and growth regulation. One of the active areas of investigation involves the interaction between Crk and the Bcr-Abl oncogene product, a chimeric protein involved in the etiology of human CML. Recently we have identified two novel tyrosine phosphorylation sites in the carboxyl-termini of the Crk protein, and have generated affinity-purified anti-phospho specific antibodies. The function of tyrosine phosphorylation of Crk in CML pathogenesis will be investigated.

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

The student will use molecular biology, cell biology, protein chemistry. The student will employ PCR and cloning techniques, soft colony assays and similar methods to evaluate cell transformation, and assist in purification of proteins for NMR structural studies.

SPONSOR’S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:


IS THIS PROJECT SUPPORTED BY EXTRAMURAL FUNDS?  
Yes ☑  or  No ☐

(IF YES, PLEASE SUPPLY THE GRANTING AGENCY’S NAME)

NIH

THIS PROJECT IS: ☑ Clinical  ☑ Laboratory  ☐ Behavioral  ☐ Other

THIS PROJECT IS CANCER-RELATED ☑

THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS ☐
Summer Student Research Program
Project Description

PENDING ☐ APPROVED ☑  IRB PROTOCOL # M

THIS PROJECT IS SUITABLE FOR:
UNDERGRADUATE STUDENTS ☑ ENTERING FRESHMAN ☐
SOPHMORES ☐ ALL STUDENTS ☑

WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?
The student will be immersed in a competitive and timely research project. The student will also attend lab meetings and journal clubs, and be expected to read a few primary research articles.