Exploring novel molecular mechanisms for chronic myelogenous leukemia

HYPOTHESIS:
Biological activities that we have identified within the Bcr protein are required to support transformation in an animal model for chronic myelogenous leukemia.

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

Chronic myelogenous leukemia (CML) is causally associated with an aberrant fusion protein (p210 BCR/ABL) that contains amino terminal sequences from Bcr and carboxyl terminal sequences from Abl. Although most studies have focused on the contribution of the Abl sequences to CML, we have identified novel activities contained within the Bcr sequences that may also be necessary for clinical progression. This possibility has been demonstrated in cell-based assays and will now be confirmed in an animal model (mouse) for CML. Bone marrow transplantations in mice will be performed using p210 BCR/ABL mutants that lack these Bcr encoded activities. The student will join a team of investigators who will be performing this analysis, and should be comfortable working with animal models.

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)

National Cancer Institute

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

THIS PROJECT EMPLOYS RADIOISOTOPES ☐

THIS PROJECT INVOLVES THE USE OF ANIMALS ☑

PENDING ☐ APPROVED ☑ IACUC PROTOCOL #06025E0609
WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?
The student will get a broad exposure to an active research program that is developing and applying animal models for human disease. The student will be expected to assemble and interpret their data and present their results in weekly laboratory meetings.