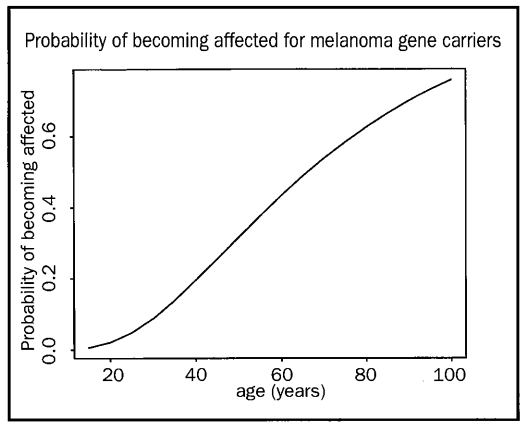
Center for Cancer Genetic Epidemiology

Mission

To research the genetic basis of common cancers in the United States, specifically, breast cancer, colon cancer, prostate cancer, and melanoma. In recent years, genetic analysis of cancer has become an increasingly critical national research focus. More and more evidence indicates that most, if not all, of the common forms of cancer frequently occur in genetically predisposed individuals.

The Center

The Center for Cancer Genetic Epidemiology is focusing its attention on breast, colon, and prostate cancers, and melanoma because of their strong hereditary basis and widespread occurrence. The study of a hereditary basis or predisposition for contracting cancer is becoming increasingly important. Such predisposing genes often take the form of defective tumor suppressor genes, which suggests that discovery of these genes may have a wide impact on cancer therapeutics. If a gene which predisposes an individual to cancer is present, the onset of that cancer may be triggered by an environmental injury to the gene. *If the predisposing gene responsible for the high incidence of the common cancers were isolated, DNA diagnostics could be employed to identify those at risk and enable them to avoid genetic damage and detect tumors at a treatable stage.*



Dr. Skolnick, the director of the Center for Cancer Genetic Epidemiology, pioneered the study of genetic based diseases by utilizing Utah's unique genealogical data base. This study of multi-generational extended families over the past 19 years has identified genetic cancer clusters in large Utah genealogies. Dr. Skolnick was one of four scientists who conceived of using DNA sequence variations as genetic markers, a conceptual breakthrough that underpins the Human Genome Project. Dr. Skolnick's group has used this genealogical data base and gene mapping technology to link genetic markers to various diseases. These studies have led to the search for an inherited breast cancer precursor. *The research group at the Center for Cancer Genetic Epidemiology is recognized as a leader in the race for cancer gene discovery, and has contributed greatly to the University of Utah's reputation as one of the leading human genetic research centers in the world.*

Center Projects

The Center is moving rapidly toward commercialization. It has developed an important relationship with Myriad Genetics, Inc. to commercialize the Center's technology. Currently there are two research projects involving licenses to Myriad Genetics, Inc. The first is for the isolation of a breast cancer susceptibility gene, called BRCA1. The second project is focused on mapping and isolating predisposing genes for colon cancer, prostate cancer, unmapped breast cancer, and melanoma. This collaboration is based on the Center's expertise in genetic epidemiology of cancer and gene mapping and on Myriad Genetic, Inc.'s rapidly developing expertise in gene isolation and the development and delivery of diagnostic services.

For more information, please contact:

Mark H. Skolnick, Ph.D.
Center for Cancer Genetic Epidemiology
Department of Medical Informatics
University of Utah Medical Center
420 Chipeta Way #180
Salt Lake City, Utah 84108
(801) 581-5070