PROMISING INQUIRY

An influx of new funding to the UH Cancer Center from the National Cancer Institute will support exploration into promising fields of study. Here's a look at the latest grants and how they will help investigators target specific cancers.

**Impact of obesity on breast, prostate and colorectal cancer risk**
A four-year grant for $1.4 million from the National Cancer Institute was awarded to Iona Cheng, Ph.D. of the Center’s Epidemiology Program. She will examine the impact of neighborhood characteristics related to obesity, dietary and lifestyle behaviors, and genetic predisposition for their effects on breast, prostate and colorectal cancer risk among African Americans and Latinos.

This research will utilize data from the Multiethnic Cohort Study. It is one of the largest studies of its kind, and the most ethnically diverse. The Multiethnic Cohort Study follows more than 215,000 men and women primarily of African-American, Japanese, Latino, Native Hawaiian and Caucasian origin, including more than 100,000 Caucasians, Asians and Pacific Islanders in Hawaii. Conducted in coordination with the Keck School of Medicine at the University of Southern California, it has been funded by the National Cancer Institute since 1993.

**Malignant transformation leading to squamous cell carcinoma**
Patricia Lorenzo, Ph.D. received a five-year $1.4 million grant to pursue identification of novel pathways involved in the malignant transformation in the skin which leads to squamous cell carcinoma. Cutaneous squamous cell carcinoma is a type of non-melanoma skin cancer that arises from the skin cells that form the epidermis. Incidence rates have soared with nearly 250,000 new cases reported each year in the U.S.
Lorenzo will explore the role of a protein called RasGRP1, which modulates Ras. In healthy skin cells, Ras plays an important role in cell proliferation. In cutaneous squamous cell carcinoma, Ras is overactivated, driving proliferation signals out of proportion and contributing to the malignant transformation of the skin cells -or keratinocytes. Although previous attempts to control Ras have been made through therapeutic interventions, Ras has proven to be a poor target for drugs. Lorenzo said further study of the RasGRP1 pathway in skin would be critical not only to understand its role in skin cancer, but also to validate further explorations as a molecular target for cutaneous squamous cell carcinoma treatment.

**How asbestos causes mesothelioma**
Haining Yang, Ph.D. is the recipient of a five-year, $1.5 million grant to study the mechanism by which asbestos causes malignant mesothelioma. Research will aim to identify new molecular targets for intervention and help scientists develop novel strategies for the prevention and treatment of malignant mesothelioma.

Malignant mesothelioma is a deadly cancer caused by a variety of risk factors
including environmental exposure to asbestos. Due to a poor understanding of how asbestos causes malignant transformation of mesothelial cells, the aggressive nature of the disease and the very limited types of treatment options available, median survival from diagnosis is one year. “Since there is no effective treatment for mesothelioma, finding ways to interfere with asbestos carcinogenesis has tremendous public health significance,” said Yang.