

Media Contact: Connie Piloto  
214-648-3404  
connie.piloto@utsouthwestern.edu

## **\$2 million grant aids study of lung cancer in people who never smoked**

DALLAS – July 21, 2009 – Researchers at UT Southwestern Medical Center are among an elite group of cancer scientists to share a \$2 million grant to find biomarkers for lung cancer that develops in people who have never smoked.

The National Cancer Institute's Early Detection Research Network (EDRN) and the Canary Foundation, a nonprofit organization that funds research in early cancer detection, are providing initial funding of \$1 million each for the first year of this project. The partnership will support studies designed to create a further understanding of the biology of lung cancer and to develop a test to detect early-stage lung cancer in lifetime nonsmokers.

Dr. Adi Gazdar, professor of pathology in UT Southwestern's Nancy B. and Jake L. Hamon Center for Therapeutic Oncology Research, is the principal investigator for the EDRN project, which will be conducted at five sites across the country.

"We know that smoking-related cancers are heavily dependent on how much one smokes. The more you smoke, the greater the risk," Dr. Gazdar said. "But why are so many new cases of lung cancer being diagnosed among never-smokers?"

Estimates suggest that as many as 25 percent of all lung cancers worldwide – 15 percent of those in men and 50 percent of those in women – are not attributable to smoking, although the figures for the U.S. are somewhat lower (10 percent of men and 20 percent of women for a total of 27,000 cases per year).

"If you consider lung cancer in never-smokers as a separate category, it ranks as the seventh-most common cause of cancer deaths worldwide," Dr. Gazdar said. "Lung cancer among never-smokers is really an ignored disease, yet it is such a major killer."

Research has shown that lung cancer in people who have never smoked differs in many ways from the disease in smokers. Nonsmokers with lung cancer have different tumor histology, gene mutations, and clinical and demographic profiles than smokers with lung cancer.

In 2005 Dr. Gazdar and his colleagues at the Harold C. Simmons Comprehensive Cancer Center helped make a key discovery in this field. They found that lung-cancer patients who have never smoked are much more likely than smokers to harbor one of three mutations in the *epidermal*

(MORE)

## **Lung-cancer study – 2**

*growth factor receptor (EGFR)* gene. In addition, they found that such mutations are more common in women and among people of Asian ancestry.

For the current project, cancer scientists at the Simmons Comprehensive Cancer Center, Johns Hopkins University in Baltimore, Fred Hutchinson Cancer Research Center in Seattle, University of Southern California and at the British Columbia Cancer Agency in Vancouver will undertake a coordinated approach to biomarker discovery, using their expertise to study the same sets of specimens by different methods. Researchers hope to open the project to additional researchers after the first year.

The researchers will use lung-cancer cell lines, tumor and lung tissue, and blood specimens to conduct studies in proteomics, gene mutations and copy numbers, microRNAs (ribonucleic acid), methylation, mitochondrial mutations and gene expression. Many of these studies will examine the entire genome.

“By pooling our talents we have a much better chance of rapid success,” Dr. Gazdar said. “The challenge is going to be interpreting the vast amount of data we expect to generate.”

The data will be funneled to a single repository, and the results will be integrated to find the most promising biomarkers.

“What we’re missing right now is sequencing the whole genome for each patient’s specimens,” Dr. Gazdar said. “We think that sequencing the whole genome is going to be crucial, but we’re still seeking additional funding for that.”

The ultimate goal is to develop a test to screen both nonsmokers and long-term former smokers before the onset of symptoms.

“About 10 to 15 years after someone has stopped smoking, their cancer more closely resembles cancers from never-smokers than from smokers,” Dr. Gazdar said. “As more and more people quit smoking, lung cancer will mainly become a disease of former smokers.”

Visit [www.utsouthwestern.org/cancercenter](http://www.utsouthwestern.org/cancercenter) to learn more about UT Southwestern’s clinical services in cancer treatment.

###

This news release is available on our World Wide Web home page at  
<http://www.utsouthwestern.edu/home/news/index.html>

To automatically receive news releases from UT Southwestern via e-mail,  
subscribe at [www.utsouthwestern.edu/receivenews](http://www.utsouthwestern.edu/receivenews)