



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Award ID:
RP101075

Project Title:
Identification of a Novel Oncogene in Clear-Cell Renal Cell Carcinoma

Award Mechanism:
Individual Investigator

Principal Investigator:
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Entity:
The University of Texas Southwestern Medical Center

Lay Summary:

Kidney cancer is predicted to have been diagnosed in over 50,000 individuals in the US in 2009. In Texas, kidney cancer is the 6th most commonly diagnosed cancer. While up until 2006 only one drug was approved by the FDA for kidney cancer treatment, advances in our understanding of the genetics and the biology of this disease have led to the development and approval of 6 new drugs. These advances resulted from the discovery of two abnormally regulated pathways/genes. However, despite the progress, metastatic kidney cancer remains largely incurable. The identification of new genes deregulated in kidney cancer may lead to the development of new treatments. Based on other tumor types, it is estimated that there are approximately 15 critical genes/pathways deregulated in kidney cancer. We have undertaken several approaches to identify novel genes/pathways and the approach supported by this award mechanism involves the analysis of regions of DNA with recurrent abnormalities in the most common type of kidney cancer, clear-cell renal cell carcinoma. We have identified one such region and are evaluating each gene in the region using a variety of assays. Each gene is individually inactivated in kidney cancer cells in the laboratory and its effects on tumor cell growth are studied. In addition, candidate genes are also examined for their role in tumor formation in mice. It is our hope that the identification of new genes implicated in kidney cancer may furnish new targets for drug therapy and improve the outcomes of kidney cancer patients.