



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
R1002

Project Title:
Recruitment of First-Time, Tenure-Track Faculty Members

Award Mechanism:
Recruitment of First-Time, Tenure-Track Faculty Members

Principal Investigator:
Kittler, Ralf

Entity:
The University of Texas Southwestern Medical Center

Lay Summary:

In most cancers, the regulation of gene expression is impaired, which enables cancer cells to grow abnormally and metastasize. Therefore the understanding of cancer-specific gene expression is key for the development of new diagnostic, prognostic and therapeutic strategies. Dr. Kittler's lab will take experimental and computational approaches that analyze the entire human genome to understand deregulated gene expression in breast, lung and prostate cancers and translate this knowledge into new approaches for the early detection and treatment of these common cancers. Specifically, Dr. Kittler's aims for the four year award are as follows:

- (1) Combine analyses of the binding sites of proteins that control gene expression (transcription factors) in the human genome to uncover the role of transcription factors in the deregulation of gene expression in cancer.
- (2) Use RNAi screening (a technique that allows the inactivation of genes in human cells) to identify proteins that regulate the stability and activity of cancer-driving transcription factors as novel targets for drug therapies.
- (3) Analyze the expression of the target genes of cancer-driving transcription factors in tissues and serums of cancer patients to identify novel biomarkers for early detection and prognosis of cancer.