



Award ID:  
RP110763-P3

Project Title:  
P3: Establishing and Characterizing New Cancer Direct Xenografts

Award Mechanism:  
Multi-Investigator

Principal Investigator:  
Charles Reynolds

Entity:  
Texas Tech University Health Science Center

#### Lay Summary:

This application proposes to establish the Texas Cancer Cell Repository (TXCCR). The TXCCR will establish well-characterized panels of cancer cell lines (cells growing in test tubes) and direct xenografts (xenografts are tumors from humans growing in special mice that have no immune system and will not reject the human cells). The cell lines and xenografts will be established in the TXCCR laboratories from patient cancer samples obtained via biobanking efforts supporting the Clinical Trials Network of Texas (CTNeT) with a focus on ovarian and lung cancers. The TXCCR is organized into 3 projects and 2 cores: Project 1 will establish cell lines from cancer and matching blood samples so as to grow non-malignant cells that match the cancer. Identity by DNA fingerprinting will be done for all cell lines and xenografts. Project 2 will assess the drug sensitivity of cell lines established in Project 1 to anticancer drugs. High-density analysis of the cancer cell genes will be done in the laboratories of Dr. Art Beaudet and Dr. Richard Gibbs, Baylor College of Medicine. Drug response data will then be analyzed together with gene data to identify DNA changes that are associated with drug sensitivity or drug resistance in the cancer cells. Project 3 will initiate direct xenografts in special mice and test the cancers for response to 4 standard drugs used routinely for therapy of the disease. DNA changes in cancer cells will compared to drug sensitivity to identify new DNA changes that confer drug resistance. The administrative core, will oversee patient sample flow, foster communications among TXCCR laboratories and collaborating laboratories, and manage the [www.TXCCR.org](http://www.TXCCR.org) website Core 1, the biobanking core will store and distribute the models. The TXCCR will facilitate successful new anti-cancer development in Texas by developing a panel of biologically relevant, fully characterized, and validated laboratory cancer models.