



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP160805

Project Title:
Preclinical Candidate Discovery Core

Award Mechanism:
Core Facility Support Awards

Principal Investigator:
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Entity:
Baylor College of Medicine

Lay Summary:

We need more rapid and less expensive strategies to discover novel anti-cancer medicines if we hope to improve patient survival and reduce treatment costs for patients with this devastating disease. The need for a larger arsenal of targeted therapeutics is particularly apparent as improved diagnostics and mutation profiling suggest new pathway-specific approaches for personalized treatment. To address the technological and economic challenges of identifying new drug candidates for cancer, we plan to use this CPRIT Core Award to develop a Preclinical Candidate Discovery Core (PCDC). The mission of the PCDC is to supply Texas cancer researchers and physicians with novel compounds to study cancer pathways in the lab and preclinical candidate (drug-like) molecules to advance to clinical evaluation in cancer patients. To accomplish this goal, the PCDC will establish a DNA-Encoded Chemistry Technology (DEC-Tec) platform, which will produce an unprecedented billion-compound collection of drug-like molecules that will be used for the discovery of life-changing medicines that target a broad range of dysfunctional processes in the cells of cancer patients. For this process to work effectively, we will form Target Action Teams in which DEC-Tec scientists and cancer biologists work hand-in-hand to oversee the planning and initiation of each drug discovery campaign, to examine the results of the DEC-Tec library selection, to evaluate and discuss compounds that emerge from in vitro and in vivo testing, and to assess the best candidate compounds for in vivo potency, drug-like pharmacologic characteristics, and potential pre-clinical development studies. The PCDC will initiate 80 DEC-Tec campaigns, train the next generation of experts in chemical biology and drug discovery, and provide BCM and Texas with an unprecedented, cost-effective, and cancer-relevant opportunity in our state to develop high-quality assets and medicines directed at key cancer targets.