



Award ID:  
RP101382-P02

Project Title:  
Project 2

Award Mechanism:  
Multi-Investigator

Principal Investigator:  
Ian M Thompson

Entity:  
The University of Texas Health Science Center at San Antonio

#### Lay Summary:

A diagnostic test is a medical test performed to aid in the detection on disease. Many diagnostic tests measure biomarkers in bodily fluids or specimens as a biological characteristic that is helpful in detecting a particular condition or disease, such as cancer. Obviously, diagnostic biomarkers that can detect cancer at its earliest possible stage are very valuable as they can help save lives as well as reduce healthcare costs. When researchers discover a biomarker, they must first obtain FDA approval to use it in clinical practice. Unfortunately, while tens of thousands of biomarkers are identified, very few of them complete FDA approval. In fact, there are 20,000 cancer biomarkers in the scientific literature, but only one per year was approved over a ten---year span. This program aims to create a fast track for approval of Cancer biomarkers by using a novel bio---nano---chip (BNC) technology that effectively and efficiently test for cancer biomarkers at the point of care. Like the "information highway" created by computer technology, this program will strive to create the "biomarker highway" to bring new Cancer biomarkers into clinical practice. This program combines expertise of leading group from Rice University in BNC sensors for clinical applications (John McDevitt, Ph.D., Nick Christodoulides, Ph.D. and Pierre Floriano, Ph.D.) along with experts in Gynecologic Oncology (Robert Bast Jr., M.D.) from M.D. Anderson Cancer Center, Oral Medicine from the University of Texas Health Science Centers (UTHSC) at Houston (Nadarajah Vigneswaran, D.M.D.) and San Antonio (Spencer Redding, DDS) and Genitourinary Oncology (Ian Thompson, M.D.) from UTHSC--- San Antonio. For this CPRIT program, prominent Texas scientists, engineers and clinicians will capitalize on ongoing research activities, as well as from a technology with the largest analytic diversity of medical micro---devices, to lead to major improvements in management of high impact prostate, oral, and ovarian cancers.