CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
DP150059

Project Title:
Blood-based markers for screening and early detection of colorectal neoplasia

Award Mechanism:
Bridging the Gap: Early Translational Research Awards

Principal Investigator:
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Entity:
The University of Texas M.D. Anderson Cancer Center

Lay Summary:

Colorectal cancer (CRC) is the second leading cause of cancer death in industrialized nations, accounting for 10% of the total cancer burden with an individual lifetime risk of ~6%. Although early detection by screening results in significantly reduced mortality and numerous screening options exist, only 40% of guideline eligible patients are screened as recommended. Patient-friendly approaches, improving patient adherence and compliance are needed to achieve national CRC screening goals, but must also demonstrate high sensitivity for detection of early cancer and precancerous lesions (adenomas), as well as broad acceptability to the general public, health care providers, and third party payers. Consistent with this goal, adoption of cost-effective noninvasive screening methods designed to reduce complications, and improve overall acceptance of the screening process would be highly desirable. A blood (serum/plasma) test for colon cancer fulfills these requirements, but currently available blood markers lack sufficient performance characteristics to be used for population screening for colorectal cancer, or for its precursor lesions (adenomas). We have developed blood-based screening tests for colorectal cancer which are based on detection of a molecule in blood called galectin-3 ligand and another called MAPRE1. In early validation studies these tests were able to differentiate blood samples from individuals with early colorectal cancer and precancerous colon polyps (adenomas) from those with normal colonoscopies. We propose a more in-depth study which will assist in developing a multi-marker blood test for clinical use. This will involve testing large numbers of existing blood specimens from individuals known to have normal colons, small adenomas, larger more high-risk adenomas or colorectal cancer. We will also refine our assay so that it can be used commercially to test large numbers of samples.