



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP140784

Project Title:
Next Generation Sequencing-Based Approaches for the Development of
Epigenetic Biomarkers for Predicting Therapeutic Outcome in Patients With
Colorectal Cancer

Award Mechanism:
Individual Investigator

Principal Investigator:
Goel, Ajay

Entity:
Baylor College of Medicine

Lay Summary:

Colorectal cancer (CRC) is one of the most common cancers worldwide; and is the second-leading cause of cancer-related deaths in the United States, with an estimated 50,000 deaths annually. For patients with more advanced disease, chemotherapeutic treatments are unavoidable. In spite of the advances we have made in the recent years, we have not been very successful in developing chemotherapeutic drugs that are predictively safe, effective and non-toxic. At the moment we have few individualized treatment options for CRC patients, and most patients end up receiving similar treatments, which may provide benefit, or perhaps harm. Over the years we have learned that individual CRCs are quite different from one another, and each cancer patient may require different treatment. Currently, most of the drugs we use do not work the same on all patients; and in a small proportion of patients where these drugs show an initial benefit, they usually stop working after short periods of time because of resistance to these treatments. Since we do not have a clear understanding of which patients will benefit from specific chemotherapies, we end up treating everyone. The downside of this is that majority of patients do not derive any benefit at all, experience severe side effects and toxicity from these drugs, or end up spending money and hope on such treatments. This project proposes to discover DNA-based markers that will help inform a clinician of the best drugs that might work for specific patients, so that each patient can receive "individualized treatment" based upon the drug that best matches their cancer type.