CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP180607

Project Title:
Blood-based biomarkers for the early detection of pancreatic cancer

Award Mechanism:
Individual Investigator Research Awards for Prevention and Early Detection

Principal Investigator:
Killary, Ann

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

Lay Summary:

Pancreatic cancer is the third leading cause of cancer related deaths by organ type and is predicted to be the second leading cause of cancer deaths by the year 2030. Due to lack of clinically detectable symptoms, most cases are diagnosed late with locally advanced or metastatic disease. If pancreatic cancer is detected early (less than/equal to stage IIB), surgical resection results in substantially improved survival compared to advanced disease (greater than/equal to stage III). Identification of biomarkers for the early detection of pancreatic cancer is a critically urgent need because currently there are no clinically validated biomarkers for the detection of resectable early stage pancreatic cancer. This grant proposal involves novel, state-of-the-art approaches to discovery and validate biomarkers in the blood to detect pancreatic cancer at a very early stage when intervention could be life saving for the patient. We have previously discovered and validated in multiple blinded trials biomarker panels that have high sensitivity and specificity for detection of early stage pancreatic cancer. However, in order to gain the very high sensitivity needed for general population screening, we propose in this grant to use innovative approaches to add to our existing panels to generate a biomarker panel to reliably detect early stage resectable pancreatic cancer in the blood. As a second goal, in order to discovery biomarkers that could detect pancreatic cancer years before diagnosis, our innovative proposal focuses on discovering and validating biomarker panels in large blinded samples from individuals who had their blood collected prior to development of pancreatic cancer. Optimally, if biomarker panels can be developed in which biomarkers are relevant to precursor disease, we hypothesize that a second prediagnostic panel will be developed which could provide a curative treatment in combination with optimized screening and imaging, especially in high risk individuals.