University of Texas M.D. Anderson Cancer Center

Biomarkers for the Early Detection of Pancreatic Cancer

Objective

Identify novel biomarkers for the early detection and risk assessment of pancreatic cancer using a molecular genetic and genomics based approach.

Program Description

An integrated strategy will be followed to identify and characterize putative target loci on selected, specific chromosomes frequently implicated in pancreatic cancer, which harbor genes deleted ("loss of function tumor suppressor genes") or overexpressed in pancreatic cancer ("gain of function oncogenes"). Target genes will be characterized using expression and methylation studies, microsatellite instability studies, and SNP analysis.

Specific Aims

- Identify 3p12 pathway genes as potential biomarkers for pancreatic cancer.
- Characterize DEAR1, a novel tumor suppressor gene localized on chromosomal locus 1p35.1, which is frequently deleted in pancreatic cancer.
- Perform detailed genetic profiling of chromosome 20q13 and 12p amplicons in pancreatic cancer to identify overexpressed genes, which may serve as biomarkers for early detection of pancreatic cancer.
- Determine if SNPs in the Aurora A kinase gene or in the DEAR1 gene influence the risk of developing pancreatic cancer.
- Determine if microsatellite instability is common in pancreatic cancer.

Contact Information

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