

# PANCREATIC DISORDERS & TREATMENT

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## Circulating biomarkers for early detection of pancreatic cancer

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Intraductal papillary mucinous neoplasm (IPMN) is a precursor cystic lesion to pancreatic cancer. With the goal of classifying IPMN cases by risk of progression to pancreatic cancer, we undertook an exploratory next generation sequencing (NGS) based profiling study of miRNAs (miRNome) in the cyst fluids from low grade-benign and high grade-invasive pancreatic cystic lesions. Thirteen miRNAs (miR-138, miR-195, miR-204, miR-216a, miR-217, miR-218, miR-802, miR-155, miR-214, miR-26a, miR-30b, miR-31, and miR-125) were enriched and two miRNAs (miR-451a and miR-4284) were depleted in the cyst fluids derived from invasive carcinomas. Quantitative real-time polymerase chain reaction analysis confirmed that the relative abundance of tumor suppressor miR-216a and miR-217 varied significantly in these cyst fluid samples. Ingenuity Pathway Analysis (IPA) indicated that the genes targeted by the differentially enriched cyst fluid miRNAs are involved in five canonical signaling pathways, including molecular mechanisms of cancer and signaling pathways implicated in colorectal, ovarian and prostate cancers. Our findings make a compelling case for undertaking in-depth analyses of cyst fluid miRNomes for developing informative early detection biomarkers of pancreatic cancer developing from pancreatic cystic lesions.

### Biography

Pamela L Paris, PhD, received her undergraduate degree from John Carroll University, where she obtained a degree in Chemistry magna cum laude. She was awarded two fellowships, the Sherman Clarke Fellow and Merck Fellow, while conducting her advanced education in Biophysical Chemistry at the University of Rochester. Upon completion of her PhD, she did a Post-doctoral fellowship at the Cleveland Clinic in Prostate Cancer Genetics. She joined the Department of Urology in 2001 as an Associate Researcher, received support from the Prostate Cancer Career Development Program from 2001 to 2003, and was promoted to Associate Professor in the Department of Urology in 2009. She received a joint appointment in the Division of Hematology-Oncology in 2010 and was advanced to Professor in 2012.

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