

**Research Project Proposal**  
Academic year 2015-2016

<b>Project Nº 31</b>
<b>Title:</b> Cytogenetic and Molecular Cytogenetic Characterization of Pancreatic Cancer
<b>Department/ Laboratory</b> Laboratory of Cytogenetics Department of Pathology & Laboratory Medicine UCLA - CALIFORNIA
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<b>Summary</b>  Pancreatic cancer is the fourth leading cause of cancer death in the United States, with an approximate 5-year survival rate of 5%. Although a number of genetic loci have been implicated and confirmed in the progression of the disease, pancreatic cancer is nevertheless an extremely heterogeneous condition, and consequent late detection and lack of targeted therapy has continually presented clinicians with difficulties, both in diagnosis and treatment. We are trying to characterize pancreatic tumors by cytogenetics, molecular cytogenetics and chromosomal microarrays. We are trying to find new loci and novel genes that may predispose also to genetic cancer. We are also trying to establish a FISH panel to diagnose this type of tumor.  1) Validate the panel of FISH Probe-sets to detect these recurrent abnormalities of diagnostic significance in pancreatic cancer. 2) Evaluate the ability of the Probe-sets to distinguish between early-stage and advanced disease and determine other possible associations between the genomic abnormalities and histologic/clinical features. 3) Validate their value in the clinical management of patients with pancreatic cancer.
<b>References</b>  1. Luo Y, Tian L, Feng Y, et al. The predictive role of p16 deletion, p53 deletion, and polysomy 9 and 17 in pancreatic ductal adenocarcinoma. Official Journal of the Aranyi Lajos Foundation. July 2012. 2. Dewald G, Smyrk T, Thorland E, et al. Fluorescence in situ hybridization to visualize genetic abnormalities in interpose cells of acinar cell carcinoma, ductal adenocarcinoma, and islet cell carcinoma of the pancreas. Mayo Clin Proc. 2009 September; 84(9): 801–810.



8.3. Waldell N, Pajic M, Patch AM, et al. Whole genomes redefine the mutational landscape of pancreatic cancer. Nature 2015, Vol 518:495-. Doi:10.1038/nature 14169

**POSSIBILITY OF PhD**

Maybe.