

**National Cancer Institute
Clinical Trials and Translational Research
Advisory Committee (CTAC)**

**Progress in Pancreatic Ductal Adenocarcinoma (PDAC)
Research Working Group
(PDAC Progress Working Group)**

**Working Group Report
March 6, 2019**

The report was accepted at the March 6, 2019 CTAC Meeting

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NATIONAL CANCER INSTITUTE
CLINICAL TRIALS AND TRANSLATIONAL RESEARCH
ADVISORY COMMITTEE (CTAC)
PROGRESS IN PANCREATIC DUCTAL ADENOCARCINOMA
(PDAC) RESEARCH WORKING GROUP
(PDAC PROGRESS WORKING GROUP)

WORKING GROUP REPORT, MARCH 2019

INTRODUCTION

On September 19, 2012, the 112th Congress amended the Public Health Service Act by enacting the [Recalcitrant Cancer Research Act \(RCRA\) of 2012](#) (Public Law 112-239, §1083). The legislation called upon the National Cancer Institute (NCI) to identify two or more recalcitrant cancers that have a five-year relative survival rate of less than 20 percent and cause more than 30,000 deaths per year in the United States and to develop scientific frameworks that will assist in making progress against these cancers. Pancreatic ductal adenocarcinoma (PDAC) was identified by NCI as a recalcitrant cancer as defined, with its five-year relative survival rate of less than 6 percent that translates into the loss of almost 40,000 lives per year. A [report](#) focused on the NCI's scientific framework for PDAC was submitted to Congress in 2014 and posted on NCI's website. NCI convened the Progress in PDAC Research Working Group (PDAC Progress WG), chaired by Dr. James Abbruzzese, Duke Cancer Institute, to advise NCI on the implementation progress of the initiatives outlined in the scientific framework. Working Group members represent the broad clinical and translational research and advocacy communities (Appendix 1).

This report summarizes the recent deliberations of the PDAC Progress WG which focused on research progress of the scientific initiatives to date and suggestions for future areas of scientific research. The PDAC Progress WG focused on the impact of the four 2014 Scientific initiatives on the following broad cross-cutting areas of research: 1) Biology (genomics/metabolomics/tumor biology); 2) Animal and Human Tissue Models; 3) Risk, Prevention, Screening, Diagnosis; and 4) Treatment. A fundamental objective was to address the continued scientific relevance of the 2014 scientific initiatives. Other issues considered were the appropriateness of the NCI's overall research direction as well as research gaps and opportunities. In addition to current progress, the importance of future therapies and new methods and clinical strategies to advance the field were emphasized.

THE 2014 SCIENTIFIC INITIATIVES

The 2014 [Scientific Framework for Pancreatic Ductal Adenocarcinoma](#) provided the background, rationale and implementation plans for four initiatives to expand PDAC research. These initiatives are summarized below:

1. [Development of an in-depth understanding of the biological and clinical relationship between PDAC and diabetes mellitus \(DM\) of recent onset](#)

Understanding the clinical and biological characteristics of new onset diabetic patients who subsequently develop or have undiagnosed PDAC is important for defining risk factors for screening and early diagnosis efforts.

2. Evaluate longitudinal screening protocols for biomarkers for early detection of PDAC and its precursors

Identification of patients with the earliest stage PDAC or those who have precursor lesions (pancreatic intraepithelial neoplasia - PanIN-3 - and cystic neoplasms of the pancreas) that are likely to evolve into PDAC have the best chance of cure. More accurate and sensitive methods to identify the molecular alterations that characterize these early lesions and predict future malignant invasion are needed. Longitudinal screening protocols that collect specimens from early lesions from patients at high risk of developing PDAC are important for identifying markers of disease progression.

3. New therapeutic approaches in immunotherapy

Validation of new immunotherapeutic and stromal targets as well as interventions for clinical testing in animals and human tissue models is important for the identification of new therapeutic approaches.

4. Developing new treatment approaches that interfere with RAS oncogene-dependent signaling pathways

Mutant forms of KRAS are present in 95 percent of patients with PDAC and are thought to play a role in the initiation and maintenance of pancreatic carcinogenesis and resistance to therapy. Opportunities now exist, based on the structural biology of the KRAS molecule to make progress in targeting this pathway.

ASSESSMENT OF RESEARCH PROGRESS

In September 2018 over the course of several weeks, the Working Group divided into four subgroups; 1) Animal and Human Tissue Models, 2) Biology (genomics/metabolomics/tumor biology), 3) Risk, Prevention, Screening, Diagnosis, and 4) Treatment. These subgroups convened via webinars to discuss current pancreatic cancer research being conducted in relation to each of the 2014 scientific initiatives. A Working Group member was appointed to guide the assessment of the research progress for each subgroup. NCI provided the WG the following information about NIH-supported research:

- Abstracts for FY 2015 – FY2017 NCI-supported grant projects and subprojects coded to 25 percent or greater relevance to pancreatic cancer; NIH grant projects identified as relevant to PDAC in one of the four initiatives in the scientific framework; related information from specific NCI programs and initiatives along with other NIH projects with relevance to pancreatic cancer retrieved from the NIH RePORTER database (Appendix 2).
- Publications supported by grants submitted in response to relevant Funding Opportunity Announcements; NCI CDP Pancreatic Cancer Detection Consortium (NCI-PAR 15-289), and NCI-NIDDK Joint FOAs Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers and Coordination and Data Management Center (RFA-DK-14-027/RFA-DK-14-028) (Appendix 3).
- A listing of all open NIH supported clinical trials as of February 2018 (Appendix 4).

The full Working Group convened via an in-person meeting in October 2018 (Appendix 5) to discuss progress, opportunities, and gaps within the current PDAC scientific framework portfolio. The overall impression was that the initiatives in the scientific framework were still relevant. While important developments have been made, further work is needed to identify patients at risk for developing PDAC, optimize data/tissue collection, identify biomarkers, and improve clinical trial accrual, efficiency and outcomes.

SUMMARY OF PROGRESS

Topics

Biomarkers, Early Detection, Screening Assessment

Updates on the Early Detection Research Network (EDRN), the Pancreatic Cancer Detection Consortium (PCDC), the Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer (CPDPC), and the Consortium for Molecular Cellular Characterization of Screen-Detected Lesions (MCL) were presented. Two main areas were discussed; 1) evaluation of longitudinal screening protocols with new imaging biomarkers for patients at high-risk of PDAC and 2) studies of the biological relationship between PDAC and diabetes mellitus (DM) in collaboration with the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

EDRN's goal is to develop and validate biomarkers for diagnosis and prognosis of early-stage cancer. A panel of integrated biomarkers including proteins, autoantibodies, metabolites and miRNA has been created. A major consideration is the ability to identify those at high risk of pancreatic cancer from the many patients found to have cysts. Opportunities exist for collaboration in the development of reference sets and standardized protocols. A US-Japan collaboration of pancreatic cancer was formed for the development of plasma biomarkers for early detection in early-stage disease.

Consortium for the Study of Pancreatitis, Diabetes and Pancreatic Cancer (CPDPC) Assessment

The CPDPC conducts clinical research on; 1) Chronic Pancreatitis (CP) (including those with recurrent acute pancreatitis), and 2) Pancreatic cancer and pancreatogenic or Type 3c Diabetes Mellitus (T3cDM) and their pathogenic interrelationships.

The CPDPC is composed of working groups. The DM-PDAC working group cohort study is collecting bio-samples from diabetes patients to 1) establish a new onset diabetes (NOD) cohort, 2) estimate the probability of PDAC in the NOD cohort, and 3) validate biomarkers and develop early detection screening protocols. The goal of the NOD studies is to detect pancreatic cancer at an early and potentially curable stage and identify high risk groups for prevention. Several other studies are also underway. The Diabetes Cardiovascular Risk-Evaluation: Targets and Essential Data for Commitment of Treatment (DETECT) study is testing whether pancreatic polypeptides will provide valid biomarkers to identify and distinguish T3cDM from T2DM. The adult Chronic Pancreatitis (CP) working group is establishing a cohort for study of CP and its complications. The pediatric study (INSPIRE2) will collect data from subjects with recurrent acute pancreatitis and chronic pancreatitis to evaluate risk factors, time frame for progression to CP, and characterize this cohort.

Moonshot (Immunotherapy and Microenvironment) Pancreatic Cancer Microenvironment Network (PaCMEN) Assessment

An update on the PaCMEN was provided. The purpose of the network is to stimulate research on the PDAC microenvironment with the goal of understanding the interaction between tumors and the microenvironment to design new immunotherapy and other treatment interventions. PaCMEN has advanced the study of the immunogenicity of pancreatic cancer. New evidence suggests the ability to reprogram the tumor microenvironment, making it more amenable to immunotherapy.

The development of resource centers with a multidisciplinary team approach and research projects focused on 1) dissecting multi-cellular heterogeneity, 2) disrupting the immune and drug privileged microenvironment, 3) defining neoantigen immunodominance and quality for biomarker and target discovery, 4) interrupting cellular cross-talk and 5) reprogramming the PDAC tumor environment which could lead to the success of this program.

RAS Initiative Assessment

The major goals are to discover small molecules that bind to RAS directly or disrupt RAS/effector interactions, and to molecularly describe the RAS/RAF signaling complexes in the membranes. The RAS Initiative follows a *hub and spoke* model for collaboration with academia, industry and other partners. Cooperative research and development agreements with private companies have amplified initiatives and efforts. RAS resources can be distributed worldwide.

Developing and understanding of the structural components of RAS is a priority; new targetable pockets and configurations in oncogenic RAS mutants have been identified. The specific aim of the RAS Initiative is to find molecules that target RAS. Once molecules that bind RAS have been identified they will be studied in PDAC. The initiative is interested in using cell lines derived from pancreatic cancer, but the overall initiative goal is to find molecules that bind to wild type and mutant RAS.

The RAS Synthetic Lethality Network (SLN) has been up and running for two years. Groups are starting to generate a list of targets and are comparing lists to cross validate the targets. The challenge will be to evaluate the output and determine overlap, and to validate those findings.

An important experimental gap is the pathway to activation of RAS. The RAS Initiative has been consolidated to 1) direct targeting of KRAS and 2) understanding the biology in the context of the plasma membrane. Novel classes of compounds to target KRAS have been identified. Partnering with biopharmaceutical companies (Pharma) and NIH is needed to screen leads and move candidates toward the clinic.

Discussion

The PDAC Progress Working Group agreed that NCI-funded initiatives have been useful for advancing research. Sustaining funding is an important consideration. Additional high quality molecular studies will provide evidence of efficacy to engage Pharma in PDAC research and will provide important collaborative opportunities to expand research initiatives. There was a consensus that early detection alone is not sufficient because even at an early stage, patients may have metastatic disease. All agree that novel techniques and approaches are needed to treat PDAC.

Grant mechanisms to create academic-industrial partnerships to validate and move technical developments into the clinic are in place. This is a welcomed development as it is important to partner to make real progress. A new consortium has been developed for industry-academic partnerships to study liquid biopsies and biomarkers. The established consortia are an enormous resource. However, the Working Group felt that representatives from Pharma at the consortia meetings would be beneficial and that facilitation by NIH would be of value.

For early detection, CPCDC is a clinical consortium that the Working Group felt was missing a basic science component. Instead of recasting the consortia every five years, perhaps basic scientists need to be encouraged to interact with the consortia via the use of investigator-initiated projects to stimulate creativity. To move forward with discovery broad areas of expertise are needed. Additionally, the Working Group reminded NCI that even if biomarkers for early detection are validated, there is a huge educational component to get them into the community setting.

New clinical studies, programs and collaborations are underway including plasma biomarkers studies for early stage disease, surveillance methods for distinguishing precancerous and cancer lesions and creation of annotated tissue banks for in-depth study of the molecular basis of disease. The RAS Initiative was highlighted with a focus on direct targeting of allele specific RAS/KRAS and understanding of its structure, biology, and interactions within the plasma membrane. The PaCMEN has advanced immunotherapy options as part of the Moonshot initiative, while the CPDPC has initiated both adult and pediatric studies for evaluating pancreatitis and establishing a new onset diabetes cohort.

PDAC BIOLOGY- GENOMICS/METABOLOMICS/TUMOR BIOLOGY

Assessment

There is a need to better understand systemic and local metabolic perturbations, and the effect of the microbiome and the intratumoral microbiome that underlies the diabetes axis and its relationship to cachexia. NCI Moonshot has pioneered new therapy approaches in immunotherapy. RAS remains central to PDAC with the NCI RAS Initiative as a primary effort and RAS SLN as a secondary. Scientific gaps for new opportunities exist in the areas of genomics, metabolomics, tumor biology and immunology. Considerations include oncogenic drivers, biology of RAS variants, KRAS effect on metabolism, tumor evolution, and the tumor microenvironment. Circumventing bypass signaling pathways and understanding of the role of the stromal elements of the tumor microenvironment remains critical.

Better correlative studies will provide information on study failures and exceptional responders. Risk prevention, screening, and diagnosis are the basis for future model systems. A well-annotated biorepository, and refined screening and assay criteria are necessary for therapeutic advances in this disease. Imaging, screening, and integration of biomarkers are all essential for clinical advancement.

Research Gaps and Opportunities

- New methodologies to improve the feasibility of obtaining serial biopsies will increase research options
- The role of the pancreas in regulating nutrition and metabolism and the biological mechanisms of PDAC associated cachexia
- How PDAC evolves in response to treatment and the biological mechanism of treatment resistance
- The role of stroma in the disease process
- Identification of targets that bind RAS in diseases of the pancreas

Discussion

NCI has been responsive; however, continuous efforts are needed to move the field forward. Endocrine/exocrine factors, early detection, and the importance of therapy to those at risk was highlighted.

With NOD as a marker for disease, looking at glycemic control 7-8 years prior to pancreatic cancer diagnosis is critical. There is some evidence that hyperinsulinemia leading to poor glycemic control and PDAC are related. Metabolism studies need to be included and expanded. For early detection, stage I and II is too late for pancreatic cancer. Focusing on developing more sensitive methodologies is important for the earliest detection.

Systemic and local metabolic perturbations, and the effect of the microbiome and the intertumoral microbiome, are an area of emerging exploration. The biophysics of the pancreas and PDAC are unique. Stromal progression models are needed since the biophysical properties of the pancreas change with tumor progression. This area of research will aid in the identification of dependent therapeutic products. Additionally, the current treatment system can be enhanced by the addition of *in vivo* imaging and investment in agents that can image drug delivery. *In vivo* imaging can also be helpful to study the biomechanics and fluid mechanics of the tumors.

A more thorough understanding of the biology of tumor progression is needed. There are sophisticated methods to analyze the cellular composition of tissue that can be used to analyze pancreatic cancer versus chronic pancreatitis. Research in locally advanced disease and metastatic lesions that occur very early in the disease process need further study. Longitudinal sampling across different stages of disease will provide opportunities important for this type of research.

The science coming out of the RAS Initiative is extraordinary. However, more emphasis on RAS mutations in pancreatic cancer is desired as mutation of KRAS appears to be an initiating event in this disease. Different specific RAS mutations may have different downstream effectors, emphasizing the need for a more directed effort in this space.

ANIMAL AND HUMAN TISSUE MODELS

Assessment

There have been tremendous advances in mouse and organoid model systems over the past several years. Animal and human tissue models remain an important component to PDAC related research. They are useful for cause and effect studies of mutant genes. Mouse models showed that the KRAS mutation is an initiating event in PDAC. The KPC mouse is a useful model that develops invasive ductal disease. In this mouse model **KPC** stands for: Kras, p53, and Cre. Kras and p53 are two genes that are often mutated in human pancreatic tumors. Cre is a special tool gene that is used to control where Kras and p53 are turned on. Mouse models that specifically allow for a deeper understanding of the transition from high grade PanIN to invasive cancer are an unmet need, as are models of pancreatitis

Organoids, artificially grown masses of cells or tissue that resemble tumors can be made from human or mouse cancer cells. They may serve well in biomarker discovery, drug testing, and in the study of biological properties of cancer. For organoid pancreatic model systems, there are no reports of model comparisons, including success rates and validation to the primary tumor. Modified and non-epidermal growth factor/Noggin/R-spondin1 (ENR) organoids need comparison and validation to be used for therapeutic modeling. Organoid models provide stromal cultures for biological medicine applications. A comprehensive analysis of the extracellular matrix is needed as are more efficient ways of disseminating organoids.

The further development of additional models of pancreatitis, diabetes, obesity, genetic deficiency and metastasis are relevant to PDAC research. Additional studies of high grade PanIN and focal PDAC, imaging, and liquid biomarkers are also critical. A well annotated mouse tissue resource will be beneficial to the field.

Research Gaps and Opportunities

- Mouse models of high grade PanIN, pancreatitis and DM that recapitulate human disease
- Collection and interrogation of samples from exceptional responders and non-responders
- Better models of metastatic disease
- Combining models of cachexia with models of PDAC

Discussion

NCI has initiatives and programs to help stimulate research in PDAC animal and human tissue model systems. The NCI PDM (Patient Derived Models) repository (pdmr.cancer.gov) contains cell lines, and organoids available to extramural scientists. The tissue samples are sequenced, many associated with a clinical history. Additionally, the NCI supported Rapid Autopsy program has been collecting samples and is developing SOPs for both the collection and shipping of fresh tissue, which can be made available.

RISK, PREVENTION, SCREENING, DIAGNOSIS

Assessment

In prevention and diagnosis, progress has been made in understanding risk and prevention of pancreatic cancer such as: IPMN classification, and the genetics of cysts and molecular testing. Improved study design and larger validation cohorts are needed to further elucidate risk and prevention. Screening to identify high risk individuals will aid in detection of early stage disease. There is an effort to have more ethnic and racial minority representation in clinical trials and understand potential genetic differences and similarities. To date studies in minority populations have identified a higher incidence of the CD2K mutation. These studies need to be continued.

Research Gaps and Opportunities

- Artificial intelligence/machine learning
- Integration of blood-based biomarkers
- Delivery of genetic testing /counseling to patients and relatives
- Development of vaccines for PDAC prevention

- Relationship between the microbiome and increasing rates of obesity and DM
- Knowledge of the relationship between obesity and Maturity Onset Diabetes in the Young (MODY) as risk factors for pancreatic cancer
- Identification of high-risk patients in those with pancreatic cysts

Discussion

Education initiatives include identification of at-risk patients, education on diagnosis and treatment, and expanding knowledge of pancreatic diseases. Methods to capture the patient population lacking a family history need to be investigated. Detection of patients who have sporadic risk will have the greatest impact.

Computer science and molecular imaging have made great strides. Revolutionary changes will occur when we can evaluate the molecular characteristics through imaging. The nature of surveillance, physical exam versus imaging, plays a role in the ability to identify lesions and progression in pancreatic cancer. Use of ultrasonic and optoacoustic methods for diagnosis hold promise but will need continued support. There are opportunities to do screening trials utilizing imaging technologies. There are currently microbubble agents that can be used with hand-held ultrasound detectors—a technology that is exciting and promising. Optoacoustic imaging is being developed which might be of use in imaging of PDAC related lesions. These will need additional technological development along with the development of diagnostic drugs. Radiomics and machine learning with sophisticated imaging analyses are possibilities of the near future.

The relationship between obesity and inflammation, and the recognition that obesity is a significant risk factor for pancreatic cancer was highlighted. It is a difficult area to study but is thought to be critically important in sporadic pancreatic cancer. Epidemiological studies have shown with bariatric surgery patients, only some of them are diabetic, but research implies they have insulin resistance. After bariatric surgery the incidence of pancreatic cancer is cut in half and insulin levels return to normal. This implies that insulin might be an active player in pancreatic cancer. The estimated proportion of pancreatic cancer incidence attributable to overweight and obesity in the US is 15 to 20 percent. This proportion is greater than the proportion estimated to be attributable to smoking or genetic susceptibility given the current high prevalence of overweight and obesity (71.6 percent) in the US adult population. Therefore, overweight and obesity is important to understand as risk factors for pancreatic cancer. In view of the current obesity epidemic in this country, the Working Group felt that NIH investment in obesity research and the link between obesity, DM, and PDAC is important.

A high priority is to bring together centers that have a large number of genetically tested and high-risk patients. For high-risk individuals, the question of how often to collect samples is critical; currently, there are no standards. We need to educate physicians and patients with convincing evidence. Our best chance of having patients survive PDAC is the identification of pre-invasive disease. We need to understand better the relationship between pancreatitis, obesity, glucose intolerance, and diabetes. Competing tissue needs for limited samples is a challenge in the use of diagnostic biopsies; development of new methodologies that use smaller quantities of tissue is critical.

TREATMENT

Assessment

An update on progress in the treatment of PDAC was provided. Updates on modalities, management of disease states, and horizon opportunities were discussed.

Improvement in treatment methods have included enhanced surgical and laparoscopic techniques resulting in reduced morbidity, improved risk/benefit determination and enhanced patient quality of life (QOL). However, for most patients, systemic therapy for PDAC has not improved outcomes significantly and there is urgency on the part of patients, families, and oncologists that expedited efforts are needed to expand therapies beyond traditional cytotoxic chemotherapy approaches. The importance of new therapies is underscored by its inclusion in two points of the scientific framework.

Over the past 5 years surgical improvements have resulted in a reduction in morbidity and mortality allowing more surgical intervention within quality centers of expertise. Other therapies including radiation, endoscopic ultrasound, and systemic therapy have had improvements in technique for better patient selection, diagnosis, reduced morbidity and improved QOL. Progress has been made in resectable and borderline disease allowing for management of micro-metastatic disease and a decrease in R1 resection rates. Promising results have been seen for 6-months treatment with adjuvant FOLFIRINOX (a combination of chemotherapeutic agents; leucovorin calcium, fluorouracil, irinotecan hydrochloride, and oxaliplatin) following resection. However, patient selection and chemotherapy tolerance remain a concern. Although systemic therapy is used to prevent disease recurrence, there is still a problem with local control. Advances in surgical techniques and radiotherapy may help to limit local disease progression.

Future objectives discussed included novel treatment strategies and precision medicine for mutant KRAS tumors, and more rapid return of molecular analysis for clinical decision-making. Patients should not wait more than 10 days to begin treatment. Improved understanding of cachexia and sarcopenia, immunotherapy, and the microenvironment are necessary for the design of future treatment strategies.

Focus on development of endpoints and statistics relevant to pancreatic cancer clinical trials is important for the design of future clinical trials. Current clinical trial designs do not take into the account the aggressiveness of the disease, making accrual to PDAC trials difficult.

Further, the high symptom burden faced by many patients with PDAC warrants additional research into improving palliative and supportive care, optimizing pain management, and improving care of patients at the end of life.

Research Gaps and Opportunities

- Treatments other than cytotoxic chemotherapy
- Advances in precision medicine
- Opportunities to learn from clinical trial failures
- Consensus on endoscopy methods
- Methods to improve palliative and supportive care including optimization of pain management and end-of-life care

Discussion

For tissue acquisition, there is no clear consensus on protocols. Assembling a working group to look at how best to obtain tissues is of great interest. An organized, systemized approach would be helpful. There is a shortage of effective systemic treatments. Only 5 percent of patients are going on trials; how can we encourage patients to go on trials? Are we over-selecting patients, such as those with the most aggressive disease? Are inclusion criteria too restrictive and perhaps irrelevant to the treatment?

Any biomarkers that signal disease would need to be followed up by biopsy unless we have better imaging. One third of patients will die with a component of local disease, so local disease is important to study. The potential for radioimmunotherapy is very exciting in PDAC.

An area of imaging to further explore is after neoadjuvant therapy. Understanding characteristics of tumors after neoadjuvant therapy would help determine the difference between fibrosis and disease progression. If imaging is going to be important, we need better pancreatic-specific treatments and more specific imaging markers.

RESEARCH GAPS AND OPPORTUNITIES

RESEARCH GAPS

- Biological relationship between PDAC and metabolic disruptions, including diabetes, obesity, cachexia and sarcopenia
- The relationship between diabetes and PDAC in minority/underserved populations
- Recapitulating the relationship between PDAC, diabetes, and insulin metabolism in animal models
- Intratumoral heterogeneity
- New therapies
- New statistical approaches and methodologies to clinical trial designs for rare and aggressive cancers
- Clinical trial accrual issues; barriers to trial entry, inclusion/exclusion criteria, and trial design issues

RESEARCH OPPORTUNITIES

PDAC Biology- Genetics/Metabolomics/Tumor Biology

- Perturbations of the tumor microenvironment and its impact on tumor progression and therapeutic response
- Understanding the role of the microbiome
- Greater understanding of PDAC disruption of metabolic pathways
- The role tumor cell heterogeneity plays in drug resistance

Animal and Human Tissue Models

- Mouse models of high grade PanIN, pancreatitis, and DM that recapitulate human disease
- Use of organoids as pre-clinical and co-clinical platforms for biomarker discovery and therapeutic prediction
- Complementary strategies to model the disease as a whole
- Collection and interrogation of samples from exceptional responders and non-responders

Risk, Prevention, Screening, Diagnosis

- Development and validation of biomarkers for detection of sporadic early stage pancreatic cancer
- Integration of imaging methods with screening and biomarkers
- Artificial intelligence/machine learning to integrate different biomarkers, i.e., cell-free DNA, blood-based genetic susceptibility markers
- Enhanced delivery of genetic testing to patients and relatives
- Education initiatives to identify at-risk patients, improve diagnosis, and accelerate and expand treatment opportunities

Treatment

- Improvements to immune therapy including capitalizing on resource centers and diverse scientific expertise, addressing multi-cellular heterogeneity, disrupting drug privileged sites
- Improving the integration of radiation therapy with immunotherapy, targeted therapies, and chemotherapy for resectable and locally advanced disease
- Determining the impact of chemotherapy on the immune system and immunotherapy
- Partnerships with biotech, Pharma, and NIH to more rapidly screen for lead compounds and collaboration for the development of reference sets and standardized protocols
- New treatment methods for pancreatic cancer especially metastatic disease
- Innovative designs to address challenges with pancreatic clinical trials
- Precision medicine, serial biopsy, and longitudinal assessments
- Strategies to enhance clinical trial accrual
- Standards for clinical data and tissue acquisition
- Clinical trials with longitudinal biospecimen collection
- Improvements in palliative, supportive, and end-of-life care

CONCLUSIONS AND NEXT STEPS

The 2014 Initiatives are still relevant and vital to continued progress.

The Group agreed while significant progress has been made the initiatives identify key areas for continued focus. NCI has been responsive in developing new approaches and initiatives in diverse research areas including molecular targets, risk factors, and immunotherapy. However, continued efforts and continued evolution of research methods are needed to move the field forward.

Although progress has been made in understanding risk factors of pancreatic cancer new study designs and larger validation cohorts are needed to further identify individuals at risk. Methodologies to detect patients who have sporadic risk will have the greatest impact on outcomes. Epidemiologic studies suggest that 15-20 percent of pancreatic cancers are attributable to overweight and obesity. Alterations of metabolic processes that occur because of diabetes are better understood than the unusual disruption of metabolic processes that occur as a result of pancreatic cancer. Understanding the metabolic perturbation will aid in the development of prevention activities (lifestyle alterations) and treatment decisions that often must be made in the setting of diabetes, cachexia, and sarcopenia due to

advanced disease. The relationship between the microbiome, obesity, and diabetes, although difficult to study will provide opportunities for improving outcomes for patients at risk of developing pancreatic cancer.

Clinically, a fundamental change is needed in treatment approaches that can offer better therapies and patient care in this recalcitrant disease. There is a history of trial failures that needs to be evaluated and addressed to create change in pancreatic cancer therapeutics. In addition, maintaining a patient centered research design and optimizing palliative and supportive care while incorporating new techniques and assessing patient benefit will optimize study impact and patient outcomes.

Specific tissue collection methods, better quantitation of available biopsy material, and standardization across the field are modifications that can benefit clinical research efforts. Incorporating new technology such as organoids and animal models that better recapitulate the human disease will provide opportunities for increased efficiency and reproducibility. Likewise, barriers to trial entry including strict eligibility and organ function criteria need be re-evaluated and amended to increase patient enrollment since many patients have co-morbidities. Expanding and diversifying the patient population that is eligible to participate in trials will enhance research in this disease.

APPENDICES - SUPPLEMENTAL RESOURCES

Appendix 1: Progress in Pancreatic Ductal Adenocarcinoma (PDAC) Research Working Group (PDAC Progress WG) 2018 Roster

Appendix 2: Funded Project Summary FY 2015 – FY2017

- NIH PDAC Funded Projects, Initiative 1: Understanding the Biological Relationship Between PDAC and Diabetes Mellitus
- NIH PDAC Funded Projects, Initiative 2: Evaluating Longitudinal Screening Protocols for Biomarkers for Early Detection of PDAC and its Precursors
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Appendix 4: Open NCI PDAC Supported Clinical Trials as of February 2018

Appendix 5: NCI Clinical Trials and Translational Research Advisory Committee (CTAC) Progress in Pancreatic Ductal Adenocarcinoma Research Working Group (PDAC Progress WG) October 17, 2018 Meeting Agenda

National Cancer Institute

Clinical Trials and Translational Research Advisory Committee (CTAC)

**Progress in Pancreatic Ductal Adenocarcinoma (PDAC) Research
Working Group (PDAC Progress Working Group)**

**Appendices - Supplemental Resources
Working Group Report Appendices
March 6, 2019**

The report was accepted at the March 6, 2019 CTAC Meeting.

National Cancer Institute
Clinical Trials and Translational Research Advisory Committee (CTAC)
Progress in Pancreatic Ductal Adenocarcinoma Research Working
Group (PDAC Progress WG)

ROSTER

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Appendix 2
NIH PDAC Funded Projects,
Initiative 1: Understanding the Biological
Relationship Between PDAC and Diabetes Mellitus

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
K01AA19996 Mediators of pancreatic cancer induction by alcoholic pancreatitis and smoking	Edderkaoui, Mouad Cedars-Sinai Medical Center
R01CA180949 Early detection of pancreatic cancer in diabetics	Chen, Ru (Contact); Pan, Sheng University of Washington
R01DK107767 Omega-3 derived epoxy fatty acids and sEH in pancreatitis-induced carcinogenesis	Yang, Guang-Yu Northwestern University at Chicago
R01DK52913 The Role of Zinc Finger Cofactors in Pancreatic Cell Growth	Urrutia, Raul A Mayo Clinic Rochester
R01DK61220 Transcriptional Regulators of the Exocrine Pancreatic Phenotype	Macdonald, Raymond J (Contact); Murtaugh, Lewis C UT Southwestern Medical Center
R03CA181584 Targeting cancer stem cell initiation during pancreatic cancer development	Janakiram, Naveena B University of Oklahoma Hlth Sciences Ctr
U01DK108288 The Exocrine and Endocrine Pancreas in Type 2 Diabetes, Pancreatitis and Cancer	Chari, Suresh T (Contact); Topazian, Mark D Mayo Clinic Rochester
U01DK108300 A Clinical Center to Study Immunological and Hormonal Biomarkers for the Diagnosis, Prediction and Treatment of Chronic Pancreatitis and its associated development to Diabetes and Pancreas Cancer	Park, Walter Gwang-Up (Contact); Habtezion, Aida ; Kim, Seung K Stanford University
U01DK108306 Consortium for the Study of Pancreatitis: Pittsburgh Clinical Center	Whitcomb, David Clement University of Pittsburgh at Pittsburgh
U01DK108314 Pathophysiology, Epidemiology, and Prevention of Pancreatogenic Diabetes	Pandol, Stephen J (Contact); Goodarzi, Mark Cedars-Sinai Medical Center
U01DK108320 U01-Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers	Forsmark, Christopher E (Contact); Cusi, Kenneth ; Hughes, Steven J University of Florida
U01DK108323 Indiana University (IU) Clinical Center for Chronic Pancreatitis Clinical Research Network	Fogel, Evan Indiana Univ-Purdue Univ at Indianapolis
U01DK108326 Altered Microbiome In Pancreatitis, Diabetes And Pancreatic Cancer	Fisher, William E Baylor College of Medicine

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NIH PDAC Funded Projects,
Initiative 1: Understanding the Biological
Relationship Between PDAC and Diabetes Mellitus

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
U01DK108327 The Ohio State University Pancreatic Disorders Network (OSU-PDN)	Conwell, Darwin Lewis (Contact); Banks, Pamela G; Bellin, Melena D; Gariepy, Cheryl E; Gelrud, Andres ; Gress, Francis G; Hart, Philip A; Palermo, Joseph ; Steen, Hanno ; Topazian, Mark D; Whitcomb, David Clement Ohio State University
U01DK108328 Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer: Coordinating and Data Management Center (CSCPDPCC-CDMC)	Feng, Ziding (Contact); Maitra, Anirban University of Tx Md Anderson Can Ctr
U01DK108332 Chronic Pancreatitis, Diabetes and Pancreatic Cancer: A Prospective Approach	Van Den Eeden, Stephen K Kaiser Foundation Research Institute

Appendix 2
NIH PDAC Funded Projects,
Initiative 2: Evaluating Longitudinal Screening Protocols for Biomarkers
for Early Detection of PDAC and its Precursors

Project Number Title	PI Names (All) Institution
R21CA209366 Identifying insulin resistance biomarkers and metabolomic signature as predictors of precursors to pancreatic cancer	Zhang, Jianjun None (Contact); Schmidt, Christian Maximillian Indiana Univ-Purdue Univ At Indianapolis
U01CA200466 Validation of biomarkers for early diagnosis and risk prediction of pancreatic neoplasms	Brand, Randall (Contact); Batra, Surinder K University Of Pittsburgh At Pittsburgh
U01CA152653 Detection and prognosis of early-stage pancreatic cancer by interdependent plasma markers	Haab, Brian B (Contact); Allen, Peter J; Brand, Randall Van Andel Research Institute
R01CA136526 Mechanism of Pancreatic Carcinogenesis	Fernandez-Zapico, Martin Ernesto Mayo Clinic Rochester
R21CA185689 Non-invasive Differentiation of Benign Lesions from Aggressive Pancreatic Cancer	Craik, Charles Scott (Contact); Kirkwood, Kimberly Saunders University Of California, San Francisco
R01CA183101 Biophotonics to Couple Pancreatic with Upper GI Screening via Ultrathin Endoscopy	Backman, Vadim (Contact); Rogers, Jeremy D; Roy, Hemant K Northwestern University
R33CA225380 Molecular Beacon Based Extracellular mRNA and Protein Detection for Early Cancer Diagnosis	Lee, Ly James (Contact); Fleisher, Martin Ohio State University
U01CA214254 Noncoding RNA Biomarkers for Noninvasive and Early Detection of Pancreatic Cancer	Goel, Ajay (Contact); Von Hoff, Daniel D Baylor Research Institute
U01CA210020 Molecular Imaging Methods for the Detection of Pancreatic Ductal Adenocarcinoma	Iagaru, Andrei (Contact); Park, Walter Gwang-Up Stanford University
R01CA180949 Early detection of pancreatic cancer in diabetics	Chen, Ru (Contact); Pan, Sheng University Of Washington

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NIH PDAC Funded Projects,
Initiative 2: Evaluating Longitudinal Screening Protocols for Biomarkers
for Early Detection of PDAC and its Precursors

R33CA206907 Rapid unbiased isolation and in situ RNA analysis of circulating tumor cells using a magnetic micropore-based diagnostic chip	Issadore, David Aaron University Of Pennsylvania
U01CA217665 Peptide-based targeted molecular imaging for early detection in pancreatic cancer	Sutcliffe, Julie L University Of California At Davis
R21CA206013 (PQ1) Cellular senescence as an initiating event in malignant transformation	David, Gregory New York University School Of Medicine
N01CA0 IGF::OT::IGF PREVENT EFFICACY: OPTIMIZATION OF GEM MODELS FOR HIGH-RISK COHORTS OF HUMAN PANCREATIC CYSTADENOMAS, IPMNS, AND PANINS PROGRESSION TO PDAC.	Rao, Chinthalapally University Of Oklahoma Hlth Sciences Ctr
R43CA199058 Profiling Circulating miRNA Without PCR for Early Detection of Pancreatic Cancer	Saraf, Ravi (Contact); Roy, Santanu Vajra Instruments, Inc.
F32CA210396 Development of 18F-based Pretargeted PET imaging strategies for the PET imaging of cancer	Meyer, Jan-Philip Sloan-Kettering Inst Can Research
R01CA172045 Epigenetic regulation of pancreatic cancer	Hebrok, Matthias University Of California, San Francisco
R01CA195733 Employing mouse models to translate early detection of pancreas cancer	Kalluri, Raghu (Contact); Piwnica-Worms, David University Of Tx Md Anderson Can Ctr
R43CA200052 Screening for pancreatic cancer via nanocytology of duodenal cells	Cherkezzyan, Lusik Surenovna (Contact); Subramanian, Hariharan Nanocytomics, Llc
R03CA181584 Targeting cancer stem cell initiation during pancreatic cancer development	Janakiram, Naveena B University Of Oklahoma Hlth Sciences Ctr
R01CA216879 Targeted Molecular Imaging of Plectin-1; Bench to bedside and back again	Sutcliffe, Julie L (Contact); Kelly, Kimberly A University Of California At Davis

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Initiative 2: Evaluating Longitudinal Screening Protocols for Biomarkers
for Early Detection of PDAC and its Precursors

F30CA196087 TSPO-PET to Image Pancreatic Cancer and High-Risk Precursor Lesions	Watchmaker, Jennifer M Vanderbilt University
R43CA200398 Digital Analysis of Plasma miRNA populations in Pancreatic Cancer	Metzker, Michael L Redvault Biosciences, Lp
R01CA217207 The Development And Progression Of IPMN To PDA In The Context Of Inactivated Activin Signaling	Su, Gloria Huei-Ting Columbia University Health Sciences
R15GM110632 Label-Free Nanopore Biosensor for Rapid, Ultrasensitive, and Multiplex Detection of Protease Activities	Guan, Xiyun Illinois Institute Of Technology
U01CA200468 A Clinical Validation Center for Early Detection of Pancreatic Cancer	Maitra, Anirban University Of Tx Md Anderson Can Ctr
R21CA185536 (PQC5)Early Detection Pancreatic Cancer by Hyperpolarized Silicon Nanoparticles	Bhattacharya, Pratip K University Of Tx Md Anderson Can Ctr
R21CA185962 Pancreatic Cyst Fluid miRNOME for Biomarkers of Pancreatic Cancer	Sen, Subrata University Of Tx Md Anderson Can Ctr
R01CA211927 Reconstituting human pancreatic cancer development for translational research	Kim, Seung K Stanford University
R21CA187869 Detection of 5-hmC as a Novel Screening Biomarker for Pancreatic Cancer	Zhang, Wei (Contact); Hou, Lifang Northwestern University At Chicago
R35CA210039 Immunoprevention and immunosurveillance of human non-viral cancers	Finn, Olivera J University Of Pittsburgh At Pittsburgh
R41CA203090 Pancreatic Ductal Adenocarcinoma Targeted Ultrasound Contrast Agent Development	Unger, Evan Charles (Contact); Willmann, Juergen Karl Nuvox Pharma, Llc
R35CA197699 Molecular strategies for early detection and targeting of cancer	Reya, Tannishtha University Of California, San Diego

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for Early Detection of PDAC and its Precursors

U01CA111294 Early Diagnosis of Pancreatic Cancer	Hollingsworth, Michael A (Contact); Batra, Surinder K University Of Nebraska Medical Center
R01HD65800 Mechanisms Controlling Epithelial Homeostasis	O'reilly, Alana M Research Inst Of Fox Chase Can Ctr
R01CA176828 Using Markers to Improve Pancreatic Cancer Screening	Goggins, Michael G Johns Hopkins University
U01CA210170 Using markers to improve pancreatic cancer screening and surveillance	Goggins, Michael G Johns Hopkins University
R21CA174594 Single molecule microarrays for the detection of mutant DNA in body fluids	Celedon, Alfredo Andres Scanogen, Inc.
R01CA200572 PKD1 signaling in the initiation of pancreatic cancer	Storz, Peter Mayo Clinic Jacksonville
U01CA111302 Biomarkers for the Early Detection of Pancreatic Cancer	Killary, Ann M (Contact); Sen, Subrata University Of Tx Md Anderson Can Ctr
R21CA196485 High Specificity MicroRNA Microarray Analysis without PCR for Cancer Screening and Research	Saraf, Ravi F University Of Nebraska Lincoln
R01CA208401 Protein and proteolytic activity biomarkers of early stage pancreatic cancer	Tempst, Paul (Contact); Yu, Kenneth H Sloan-Kettering Inst Can Research
R01CA182076 Biomarker validation for intraductal papillary mucinous neoplasms of the pancreas	Allen, Peter J (Contact); Fernandez-Del Castillo, Carlos ; Wolfgang, Christopher L Sloan-Kettering Inst Can Research
R21CA175833 Use of DND1 to counteract miRNA function in cancers	Matin, Angabin University Of Tx Md Anderson Can Ctr
R01CA135650 Predictive Cancer Diagnostics and Therapy Response	Moore, Anna (Contact); Medarova, Zdravka O Massachusetts General Hospital

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R21CA188059 Long non-coding RNAs in pancreatic cancer	Sussel, Lori Columbia University Health Sciences
U01CA196403 Imaging and Molecular Correlates of Progression in Cystic Neoplasms of the Pancreas	Maitra, Anirban University Of Tx Md Anderson Can Ctr
F31CA220937 The Novel Role of REST in the Development of Pancreatic Ductal Adenocarcinoma	Bray, Julie University Of Florida
K08DK109492 The role of progenitor cells in pancreatic acinar renewal and pre-malignant progression	Maddipati, Ravikanth University Of Pennsylvania
U01CA210240 Pancreatic Cancer Detection Consortium	Hollingsworth, Michael A University Of Nebraska Medical Center
R41CA213718 Ultrasensitive SERS Nano-Sensors for Pancreatic Cancer Diagnosis and Prognosis	Junker, Wade M (Contact); Kaur, Sukhwinder Sanguine Diagnostics And Therapeutics
R01CA202917 JAK1 Signaling in Pancreatic Cancer Initiation and Progression	Wagner, Kay-Uwe University Of Nebraska Medical Center
R01CA196286 Validation of pancreatic cancer biomarkers in large prospective cohorts	Lokshin, Anna E University Of Pittsburgh At Pittsburgh
R01CA174294 Multifunctional immunoPET tracers for pancreatic and prostate cancer	Wu, Anna M (Contact); Reiter, Robert E University Of California Los Angeles
F32CA196120 A cell-based liquid biopsy approach for early pancreatic cancer detection	Bhagwat, Neha University Of Pennsylvania
R21CA191343 Defining the Role for A Lipid Kinase in the Progression of Pancreatic Cancer	Ling, Kun Mayo Clinic Rochester
R43DK115341 Development of fluorogenic substrates for the diagnosis of pancreatic cysts	Knudsen, Giselle M Alaunus Biosciences, Inc.

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 for Early Detection of PDAC and its Precursors

R21CA212827 Single-molecule mechanical detection of protein and microRNA cancer biomarkers	Wong, Wesley Philip Boston Children's Hospital
R01CA207110 Prospective immune profiling using methylation markers and pancreatic cancer risk	Michaud, Dominique S (Contact); Kelsey, Karl Timothy Tufts University Boston
R01CA192381 Exploitation of RAS signaling to develop therapy and early detection strategies for PDA	Brekken, Rolf A (Contact); Wilkie, Thomas M Ut Southwestern Medical Center
R21CA198287 Aptamers as Proteomic Tools for Pancreatic Cancer Biomarker Identification	White, Rebekah Duke University
R43CA213863 A Scalable Blood-based Pancreatic Cancer Test for High-Risk Screening	Freedman, David Nanoview Diagnostics, Inc.
R21CA194839 A novel mouse model to identify biomarkers of IPMN formation and progression	Sander, Maike University Of California, San Diego
R01CA218513 Development and application of asymmetric-flow field-flow (AF4) technology in fractionation and characterization of exosome subpopulations and novel nanoveiscles in pancreatic cancer model	Lyden, David Charles (Contact); Zhang, Haiying Weill Medical Coll Of Cornell Univ
U01CA210171 Circulating Biomarker Consortium for Pancreatic Cancer Early Detection	Wolpin, Brian Matthew Dana-Farber Cancer Inst
U01CA210138 Mayo Clinic Prospective Resource for Biomarker Validation and Early Detection of Pancreatic Cancer	Petersen, Gloria M (Contact); Zaret, Kenneth S Mayo Clinic Rochester
U01CA168896 Targeted Glycomics and Affinity Reagents for Cancer Biomarker Development	Haab, Brian B (Contact); Smith, David Fletcher Van Andel Research Institute

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Initiative 2: Evaluating Longitudinal Screening Protocols for Biomarkers
for Early Detection of PDAC and its Precursors

K99CA204725 Exploring Glycobiology and Discovering Biomarkers for Pancreatic Cancer	Engle, Dannielle Cold Spring Harbor Laboratory
U01CA128454 Discovery and Development of Cancer Glycomarkers	Pierce, J Michael University Of Georgia
R43CA210854 A highly specific NIRF/PET probe for the detection of cancer and metastases	Yang, Xinlin Imol Radiopharmaceuticals, Llc
R03CA195453 Endoenteric Balloon Coils for Improved MR Imaging of the Pancreas and Upper GI Tract	Hadley, John Rock University Of Utah

Appendix 2
NIH PDAC Funded Projects,
Initiative 3: Studying New Therapeutic Strategies in Immunotherapy

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
F30CA196124 Pro- and anti-phagocytices signals on pancreatic cancer regulate tumor macrophag	Liu, Mingen University of Pennsylvania
F31CA189757 The Role of Cancer Associated Fibroblasts in Pancreatic Tumor Progression	Pitarresi, Jason R Ohio State University
F31CA220970 Image-guided, sonoporation-enhanced immunotherapy for pancreatic cancer treatment	Fix, Samantha Marie Univ of North Carolina Chapel Hill
F32CA189633 Targeted Delivery of Theranostic Nanoparticles Carrying Immune Modulators	Bozeman, Erica Emory University
F32CA206330 Novel Pancreatic Cancer T Cell Immunotherapy	Woodham, Andrew Wallace Whitehead Institute for Biomedical Res
F32CA213795 Targeting hyaluronan in the tumor microenvironment to improve DNA vaccine immunotherapy	Duperret, Elizabeth Kennedy Wistar Institute
F32CA217033 Epigenetic therapy for pancreatic cancer	Liang, Gaoyang Salk Institute for Biological Studies
F99CA223043 Defining the barriers to immune surveillance in solid tumors	Hegde, Samarth Washington University
K08CA138907 CD40 Pathway in Pancreatic Adenocarcinoma	Beatty, Gregory L University of Pennsylvania
K22CA181611 Online monitoring and image-guided treatment of chemoresistant micrometastases	Spring, Bryan Quilty Northeastern University
K23CA163672 Cyclophosphamide modified GM-CSF pancreatic tumor vaccine + listeria-mesothelin	Le, Dung T Johns Hopkins University
N01CA0 Effect Of A Muropeptide KRAS Vaccine in the Prevention of Pancreatic Cancer Driven by KRAS Oncoprotein HHSN2612015000371 TORFP: 2017-E02	You, Ming Medical College of Wisconsin
R01CA120409 IMMUNOTHERAPY WITH CAR T CELLS	June, Carl H (Contact); Zhao, Yangbing University of Pennsylvania
R01CA163441 Radiotherapy as Immunotherapy of Tumors	Strober, Samuel Stanford University
R01CA168863 CCR2 Blockade in Human Pancreatic Cancer	Linehan, David C University of Rochester

Appendix 2
NIH PDAC Funded Projects,
Initiative 3: Studying New Therapeutic Strategies in Immunotherapy

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R01CA169123 Immunobiology and immunotherapy of pancreatic cancer	Vonderheide, Robert H (Contact); Stanger, Ben Z University of Pennsylvania
RR01CA177670 Reprogramming the Metastatic Microenvironment of Pancreatic Cancer Through CSF1R	Denardo, David G Washington University
R01CA182311 High dose radiation therapy to direct immune responses to pancreatic cancer	Gough, Michael James Providence Portland Medical Center
R01CA184926 (PQB-3) Driver gene-induced inflammation in pancreatic cancer development	Jaffee, Elizabeth M Johns Hopkins University
R01CA187923 Novel Strategies to Potentiate a Ras-targeted Oncolytic Herpes Simplex Virus	Zhang, Xiaoliu University of Houston
R01CA189209 Radio-immunotherapy to Target Cancer Stem Cells in Solid Tumor Malignancies	Murphy, William Joseph University of California at Davis
R01CA191191 IDO2 Targeting in Pancreatic Cancer	Prendergast, George C Lankenau Institute For Medical Research
R01CA197296 Reprogramming the pancreatic tumor microenvironment with immunotherapy	Zheng, Lei (Contact); Jaffee, Elizabeth M Johns Hopkins University
R01CA197916 Targeting macrophages for immunotherapy in pancreatic cancer	Beatty, Gregory L University of Pennsylvania
R01CA198095 Novel Strategies for Precision T-cell Therapies	Almo, Steven C Albert Einstein College of Medicine, Inc
R01CA203890 Combined Tumor and Stromal Targeting to Improve Pancreatic Cancer Response To Immunotherapy	Denardo, David G Washington University
R01CA208108 MUC16 in Pancreatic Cancer Progression and Metastasis	Radhakrishnan, Prakash University of Nebraska Medical Center
R01CA208253 Enhancing immune therapy in pancreatic cancer by targeting IL-6	Lesinski, Gregory B Ohio State University
R01CA208514 Mechanisms of durable antitumor immunity via CD26hiCD4+ T cells	Paulos, Chrystal Mary Medical University of South Carolina

Appendix 2
NIH PDAC Funded Projects,
Initiative 3: Studying New Therapeutic Strategies in Immunotherapy

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R01CA209886 MRI-Guided Dendritic-Cell-Based Vaccine Immunotherapy for Pancreatic Cancer	Zhang, Zhuoli Northwestern University at Chicago
R01CA210553 Image-guided ultrasound therapy and drug delivery in pancreatic cancer	Ferrara, Katherine W University of California at Davis
R01CA211070 The Pancreatic Cancer Microenvironment	Kang, Rui University of Pittsburgh at Pittsburgh
R01CA211098 Thrombin-dependent mechanisms of pancreatic ductal adenocarcinoma disease	Flick, Matthew J (Contact); Konieczny, Stephen F Cincinnati Childrens Hosp Med Ctr
R01CA211752 Heparanase in Tumor Progression, Metastasis and Chemoresistance	Sanderson, Ralph D University of Alabama at Birmingham
R01CA33084 Mechanisms of Murine Tumor Eradication by Immunotherapy	Greenberg, Philip D University of Washington
R03CA219725 IRF2BP2 modification by Cdk5 modulates interferon-gamma response tumor PD-L1 level	Petrosiute, Agne Case Western Reserve University
R21CA182701 Targeting CCR2 to Overcome Immunosuppression and Improve Immunotherapy	Denardo, David G Washington University
R21CA205094 Primers: Combining Radiotherapy and Immunotherapy using next generation radiotherapy biomaterials	Ngwa, Wilfred Dana-Farber Cancer Inst
R21CA218495 Inhibition of Stromal-Derived DKK3 to Enhance the Response of Pancreatic Cancer to Immunotherapy	Hwang, Rosa F University of TX MD Anderson Can Ctr
R35CA209960 Molecular Imaging and Theranostics of Cancer	Bhujwalla, Zaver M Johns Hopkins University
R35CA210039 Immunoprevention and immunosurveillance of human non-viral cancers	Finn, Olivera J University of Pittsburgh at Pittsburgh
R35CA210088 The Role of Stem Cells and the Microenvironment in Gastrointestinal Cancers	Wang, Timothy Cragin Columbia University Health Sciences
R41CA195947 Novel immunotherapy strategy for treatment of pancreatic cancer	Mukherjee, Pinku Oncotab, Inc

Appendix 2
NIH PDAC Funded Projects,
Initiative 3: Studying New Therapeutic Strategies in Immunotherapy

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R41CA217482 Development of a protein drug for pancreatic cancer treatment	Liu, Zhi-Ren Proda Biotech, LLC
R43CA189436 Development of an ADC against Pancreatic Cancer	Schlosser, Michael J Coare Biotechnology, Inc.
R43CA221400 Novel monobody therapy for pancreatic cancer	Yu, Bo (Contact); Larrick, James W Larix Bioscience, LLC
R44CA174025 Development of Monoclonal Antibodies to Treat Pancreatic Cancer	Sureban, Sripathi M Coare Biotechnology, Inc.
R44CA203336 Immuno-Oncology for Pancreatic Cancer: A Combination Clinical Trial with Chemotherapy and Radiation	Aguilar-Cordova, Estuardo (Contact); Aguilar, Laura K Advantagene, Inc
R50CA211425 Defining and targeting mechanisms of pancreas cancer pathogenesis	Whittle, Martin Fred Hutchinson Cancer Research Center
U01CA176058 The Dana-Farber Cancer Institute Cancer Target Discovery and Development Center	Hahn, William C Dana-Farber Cancer Inst
U01CA213862 Nanovaccine platforms to combat pancreatic cancer	Narasimhan, Balaji (Contact); Jain, Maneesh ; Salem, Aliasger K Iowa State University
U01CA224145 Interrupting Cellular Crosstalk in the Immunosuppressive Microenvironment of Pancreas Cancer	Crawford, Howard C (Contact); Pasca Di Magliano, Marina University of Michigan at Ann Arbor
U01CA224146 Systematic interrogation of the pancreatic cancer microenvironment in patient-derived specimens	Hahn, William C Dana-Farber Cancer Inst
U01CA224175 Defining neoantigen immunodominance for antigen selection and biomarker discovery in human pancreatic cancer immunotherapy	Balachandran, Vinod P (Contact); Leach, Steven D Sloan-Kettering Inst Can Research
U01CA224193 Disrupting the immune and drug-privileged microenvironment in pancreas cancer	Hingorani, Sunil R Fred Hutchinson Cancer Research Center
U01CA224348 Reprogramming PDAC tumor microenvironment to improve immunotherapy	Jain, Rakesh K (Contact); Pittet, Mikael Massachusetts General Hospital
U24CA224020 Pancreatic Ductal Adenocarcinoma Translational Resource Center (PATReC)	Wistuba, Ignacio I (Contact); Maitra, Anirban University of TX MD Anderson Can Ctr

Appendix 2
NIH PDAC Funded Projects,
Initiative 3: Studying New Therapeutic Strategies in Immunotherapy

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
ZIABC10298 Growth Regulation Section	Pastan, Ira National Cancer Institute
ZIABC10774 T Cell Alternative p38 Activation Pathway	Ashwell, Jonathan National Cancer Institute
ZIABC11185 Role of Immune and Inflammation Mediators in Progression of Pancreatic Cancer	Hussain, Syed Perwez National Cancer Institute

Administrative supplements

Base Project Number Title	PI Name(s) All Institution
P30CA091842 How the Microenvironment of Pancreatic Ductal Adenocarcinoma Affects Immunotherapy	David Denardo Washington University
P30CA016520 Abramson Cancer Center Support Grant (Pancreatic Cancer)	Robert Vonderheide University of Pennsylvania
P30CA013330 The tumor micro-environment in early metastasis of pancreatic ductal adenocarcinoma	John S. Condeelis Albert Einstein College Of Medicine, Inc
P30CA014051 Extracellular matrix-targeted immunocytokines for pancreatic cancer treatment	Richard Hynes Massachusetts Institute of Technology
P30CA046592 Therapeutic modulation of immune microenvironment in pancreatic cancer	Howard Crawford, Maria Pasca Di Magliano University of Michigan at Ann Arbor
P30CA008748 Genetic and transcriptional identification of immunogenic human pancreatic cancer subtypes	Steven Leach Sloan-Kettering Inst Can Research
P30CA036727 Effects of pancreatic cancer microenvironment on tumor immune responses	Michael Hollingsworth University of Nebraska Medical Center
P30CA015704 Modifying the tumor microenvironment to enhance engineered T cell therapy for PDA	Sunil Hingorani Fred Hutchinson Cancer Research Center
P30CA013696 Targeting the Granulocyte/Fibroblast Axis to Overcome Immunosuppression in Pancreatic Ductal Adenocarcinoma	Kenneth Olive Columbia University Health Sciences

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NIH PDAC Funded Projects,
Initiative 4: Developing New Treatment Approaches that Interfere
with RAS Oncogene-Dependent Signaling Pathways

Base Project Number Title (linked to RePORTER abstract)	PI Name(S) All Institution
DP1CA228041 Enhancer RNA Therapy	Shiekhattar, Ramin University of Miami School of Medicine
F30CA168063 Roles of MiR-17-92 Cluster MicroRNAs in K-Ras-Induced Pancreatic Tumorigenesis	Quattrochi, Brian Joseph Univ of Massachusetts Med Sch Worcester
F30CA180601 The Role of p120ctn in Pancreatic Ductal Morphogenesis and Adenocarcinoma	Bakir, Basil University of Pennsylvania
F30CA189793 Design and Development of a Small Molecule-controlled Activator of RAS	Rose, John Christopher University of Washington
F30CA200240 Role of Nix in pancreatic ductal adenocarcinoma	Alagesan, Brinda State University New York Stony Brook
F30CA206240 Mechanisms of Pancreatic Carcinogenesis	He, Ping State University New York Stony Brook
F30CA220680 Physiological Role of Dynamin-Related Protein 1 in Pancreatic Ductal Adenocarcinoma	Nagdass, Sarbajeet University of Virginia
F31CA180628 Defining the Role and Mechanism of Pak1 in Supporting Pancreatic Cancer	Baker, Nicole Marie Univ of North Carolina Chapel Hill
F31CA180693 Targeting K-Ras effector signaling for pancreatic cancer treatment	Hayes, Tikvah K Univ of North Carolina Chapel Hill
F31CA180738 Genetic and pharmacological manipulation of system xc in pancreatic cancer	Badgley, Michael Alexander Columbia University Health Sciences
F31CA192829 Defining the role of ERK1 and ERK2 in Pancreatic Cancer	Ryan, Meagan B Univ of North Carolina Chapel Hill
F31CA196329 Tumor-associated Physiological Changes Arising from Ras-induced Mitochondrial Fission	Nascimento, Aldo University of Virginia
F31CA217070 Role of the hexosamine biosynthesis pathway in pancreatic cancer.	Campbell, Sydney University of Pennsylvania
F32CA192769 MYC is a critical downstream effector in KRAS-driven pancreatic cancer	Allen-Petersen, Brittany Oregon Health & Science University
F32CA200313 K-Ras mutant-specific vulnerabilities for novel pancreatic cancer therapies	Hobbs, Guy Aaron Univ of North Carolina Chapel Hill

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NIH PDAC Funded Projects,
Initiative 4: Developing New Treatment Approaches that Interfere
with RAS Oncogene-Dependent Signaling Pathways

Base Project Number Title (linked to RePORTER abstract)	PI Name(S) All Institution
F32CA221005 Targeting CDK4/6 for pancreatic cancer treatment	Goodwin, Craig Univ of North Carolina Chapel Hill
K08CA208016 Elucidating KRAS-specific vulnerabilities in pancreatic cancer	Muzumdar, Mandar Deepak Dana-Farber Cancer Inst
K08CA218420 Functional interrogation of epigenetic vulnerabilities in KRAS-mutant pancreatic cancer	Aguirre, Andrew James Dana-Farber Cancer Inst
K99CA197816 The SMYD3-ERK5 signaling module in pancreatic cancer	Mazur, Pawel K Stanford University
K99CA208032 Deciphering the role of Lin28b in pancreatic cancer to guide therapeutic discovery	Kugel, Sita Massachusetts General Hospital
P01CA117969 Genetics and Biology of Pancreatic Ductal Adenocarcinoma	Depinho, Ronald Anthony University of TX MD Anderson Can Ctr
P01CA203657 Defining RAS isoform- and mutation-specific roles in oncogenesis	Der, Channing J Univ of North Carolina Chapel Hill
P50CA127297 SPORE in Pancreatic Cancer	Hollingsworth, Michael A University of Nebraska Medical Center
P50CA196510 Washington University SPORE in Pancreatic Cancer	Hawkins, William G Washington University
P50CA62924 SPORE in Gastrointestinal Cancer	Klein, Alison P Johns Hopkins University
R01CA109525 Mouse Model for Human Pancreatic Ductal Adenocarcinoma	Su, Gloria Huei-Ting Columbia University Health Sciences
R01CA116034 Regulation of K-Ras by a Farnesyl-electrostatic Switch	Philips, Mark Reid New York University School of Medicine
R01CA123031 Dynamic requirements of Ras signaling during cancer	Counter, Christopher M Duke University
R01CA124586 Kras-Induced Cellular Plasticity in Pancreatic Cancer	Konieczny, Stephen F Purdue University
R01CA140290 Role of PKC iota in metaplasia and initiation of pancreatic cancer	Murray, Nicole R Mayo Clinic Jacksonville
R01CA155198 Design of MEK Inhibitor Regimens for the Treatment of Pancreatic Cancer	Leopold, Judith S University of Michigan at Ann Arbor

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 NIH PDAC Funded Projects,
 Initiative 4: Developing New Treatment Approaches that Interfere
 with RAS Oncogene-Dependent Signaling Pathways

Base Project Number Title (linked to RePORTER abstract)	PI Name(S) All Institution
R01CA155784 Dissecting Hedgehog, TGF beta and BMP Signaling During Pancreatic Tumorigenesis	Lewis, Brian C Univ of Massachusetts Med Sch Worcester
R01CA163489 Characterization of lcmt in Animal Models of Cancer	Philips, Mark Reid New York University School of Medicine
R01CA168692 Targeting a non-canonical RAS-driven pathway in pancreatic cancer	Cheresh, David A University of California, San Diego
R01CA175747 Mechanisms of PAK1 activation, signaling and tumor resistance	Der, Channing J (Contact); Hahn, Klaus M Univ of North Carolina Chapel Hill
R01CA178445 The role of wild-type KRAS in the context of tumor progression and metastasis	Su, Gloria Huei-Ting Columbia University Health Sciences
R01CA184687 Pancreatic Cancer Vulnerabilities Downstream of Cooperating Oncogenic Mutations	Land, Hartmut University of Rochester
R01CA190408 Drugging the Switch-II Pocket of K-Ras	Shokat, Kevan M University of California, San Francisco
R01CA194941 Suppression of pancreatic tumorigenesis by the PTF1 transcription factor network	Murtaugh, Lewis C (Contact); Macdonald, Raymond J University of Utah
R01CA196228 The Role of post-translational activation of Myc in pancreatic cancer	Sears, Rosalie C Oregon Health & Science University
R01CA201318 The Paradoxical Role of mTORC1 in the Growth of Nutrient-deprived Pancreatic Cancer Cells Harboring Ras Mutations	Thompson, Craig B Sloan-Kettering Inst Can Research
R01CA204228 Comprehensive genetic dissection of druggable KRAS targets	Leach, Steven D Sloan-Kettering Inst Can Research
R01CA206444 Rac1 GTPase in tumorigenesis and progression of pancreatic cancer	Ouellette, Michel M (Contact); Batra, Surinder K University of Nebraska Medical Center
R01CA213233 Exosomes in Cancer Therapy	Kalluri, Raghu University of TX MD Anderson Can Ctr
R01CA216987 K-Ras sumoylation in cell proliferation and transformation	Dai, Wei (Contact); Chen, Yuan New York University School of Medicine
R01CA42978 Biological Activity of Ras Oncogenes	Der, Channing J Univ of North Carolina Chapel Hill

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 Initiative 4: Developing New Treatment Approaches that Interfere
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Base Project Number Title (linked to RePORTER abstract)	PI Name(S) All Institution
R01CA45726 Integrin alpha v beta 3 promotes resistance to EGF receptor inhibitors	Cheresh, David A University of California, San Diego
R01CA94184 RalA signal transduction	Counter, Christopher M Duke University
R01CA97061 Chemical genetic profiling of engineered tumor cells	Stockwell, Brent R Columbia Univ New York Morningside
R01DK52913 The Role of Zinc Finger Cofactors in Pancreatic Cell Growth	Urrutia, Raul A Mayo Clinic Rochester
R03CA182552 A novel regimen to target both pancreatic cancer K-ras and antiapoptotic proteins	Li, Fengzhi Roswell Park Cancer Institute Corp
R21CA176561 A Genetically Defined System to Identify Factors Essential for KRas Oncogenesis	Collisson, Eric University of California, San Francisco
R21CA179193 ERK inhibitor resistance and ERK isoform-dependent growth in pancreatic cancer	Der, Channing J Univ of North Carolina Chapel Hill
R21CA187498 Development of D-Peptide Inhibitors of Oncogenic KRAS Mutants	Danishefsky, Samuel J Sloan-Kettering Inst Can Research
R21CA188857 Preclinical evaluation of a targeted Bmi1 inhibitor in pancreatic cancer	Olive, Kenneth P Columbia University Health Sciences
R21CA191392 Identifying new drug targets to block K-Ras/Raf in pancreatic cancer.	Stork, Philip J S Oregon Health & Science University
R21CA191622 Preclinical Validation of U1 Adaptors for Suppression of KRAS in Pancreatic Cancer	Gunderson, Samuel I (Contact); Carpizo, Darren Richard Rutgers, The State Univ of NJ
R21CA195694 Targeting Pancreatic Cancer with Novel Mnk-eIF4E and AR Modulating Agents	Njar, Vincent Collins ofuka University of Maryland Baltimore
R21CA199050 Targeting Kras in Pancreatic Cancer	Ozpolat, Bulent (Contact); Lopez-Berestein, Gabriel ; Maitra, Anirban University of TX MD Anderson Can Ctr
R21CA202487 KRAS Mutations in Plasma cfDNA as Predictor to Erlotinib Response in Advanced Pancreatic Cancer	Li, Donghui (Contact); Overman, Michael J University of TX MD Anderson Can Ctr
R35CA197709 New Ways of Targeting K-Ras	Mccormick, Frank Patrick University of California, San Francisco

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 Initiative 4: Developing New Treatment Approaches that Interfere
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Base Project Number Title (linked to RePORTER abstract)	PI Name(S) All Institution
R35CA197731 Targeting Mutant KRAS for Cancer Therapy	Sebti, Said M H. Lee Moffitt Cancer Ctr & Res Inst
R43CA217502 Oral formulation for novel inhibitor of Ras driven cancers	Canzoneri, Joshua (Contact); Boyd, Michael R Adt Pharmaceuticals, LLC
R44CA206663 Novel MAP Kinase Pathway Inhibitors to Treat Pancreatic Ductal AdenoCarcinoma	Slee, Deborah (Contact); Samatar, Ahmed Kalyra Pharmaceuticals, Inc.
U01CA199235 Identification of synthetic lethal interactors in pancreatic cancer	Der, Channing J (Contact); Cox, Adrienne D Univ of North Carolina Chapel Hill
U01CA199253 Systematic identification of oncogenic KRAS synthetic lethal interactions	Hahn, William C Broad Institute, Inc.

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NIH PDAC Funded Projects,
Not Related to Framework Initiatives

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
DP2CA216364 Tracking tumor evolution through in vivo organelle profiling	Perera, Rushika Miriam University of California, San Francisco
DP2CA228042 Dissecting tumor metabolic heterogeneity in vivo	Birsoy, Kivanc Rockefeller University
F30CA177123 Transcriptional Coregulation in Pancreatic Adenocarcinoma Progression	Ferreira, Mark Jakob University of Pennsylvania
F30CA183474 Investigating Branched Chain Amino Acid Metabolism in Pancreatic Cancer	Mayers, Jared R Harvard Medical School
F30CA192819 A differentiation-based mechanism limiting pancreatic tumor initiation	Krah, Nathan Michael University of Utah
F30CA196040 Structural basis of chemokine receptor signaling in tumor progression	Kleist, Andrew B Medical College of Wisconsin
F30CA196106 A role for macrophage phenotype in regulating metastasis in pancreatic carcinoma	Lee, Jae University of Pennsylvania
F30CA200240 Role of Nix in pancreatic ductal adenocarcinoma	Alagesan, Brinda State University New York Stony Brook
F30CA200301 Mechanistic and Informatics Based Analysis of STAT1 Actions in Pancreatic Cancer	Craven, Kelly Eileen Indiana Univ-Purdue Univ at Indianapolis
F30CA203238 Mechanisms of Escape from TGFβ Tumor Suppression in the Pancreas	Huang, Yun-Han Weill Medical Coll of Cornell Univ
F30CA210587 Mechanism behind CCL21/CCR7-mediated pancreatic cancer progression	Moussouras, Natasha A Medical College of Wisconsin
F30CA213883 Identifying novel effectors of oncogenic Kras in pancreatic cells via proximity labelling	Cheng, Derek Kingman State University New York Stony Brook
F30CA213916 FOLFOX-induced kinome reprogramming in pancreatic cancer tumor xenografts	Lipner, Matthew Univ of North Carolina Chapel Hill
F30CA216998 The Role of ITIH5 in Suppressing Pancreatic Cancer Metastasis	Young, Eric University of Kansas Medical Center
F30CA221175 LINE-1 genotoxicity and cytotoxicity and its relevance to cancer	Ardeljan, Daniel Johns Hopkins University

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
F30HL117546 Microparticle Docking in Pancreatic Cancer Induced VTE	Geddings, Julia E Univ of North Carolina Chapel Hill
F31CA168350 SPARC as a regulator of collagen signaling in Pancreatic Cancer	Aguilera, Kristina Yolanda UT Southwestern Medical Center
F31CA177153 Genome-wide Case-control Association Study of Pancreatic Cancer in Jews	Streicher, Samantha Acson Yale University
F31CA177163 Elucidating the role and regulation of epithelial plasticity in metastasis	Aiello, Nicole University of Pennsylvania
F31CA180392 The activity and molecular interactions of extracellular EMMPRIN	Kendrick, Agnieszka Anastazja University of Colorado Denver
F31CA180602 The Role of Type III TGF-beta Receptor in the Fibrotic Tumor Stroma	Hesler, Rachel Duke University
F31CA183493 Tumor expressed B7x accelerates disease and is a novel target for immunotherapy	Ohaegbulam, Kim C Albert Einstein College of Medicine, Inc
F31CA186513 Intact protien as a cancer fuel source	Nofal, Michel Princeton University
F31CA192767 Inhibiting UAP1/2 as a Novel Strategy for Regulating Carbohydrate Metabolic Flux	Saeui, Christopher Johns Hopkins University
F31CA192890 Determining the kinetics and mechanism of pancreatic tumor regression following genetic deletion of PI3K p110a	Chapelliquen, Stephanie Rose State University New York Stony Brook
F31CA203563 Investigating the Role of Novel Drug Target TBK1 in Pancreatic Cancer Pathogenesis	Brannon, Arthur Lee University of Michigan at Ann Arbor
F31CA206233 High-Throughput Generation of Pancreatic Organoids with Controlled Stromal Milieus using Microraft-Based Cell Sorting	Disalvo, Matthew Univ of North Carolina Chapel Hill
F31CA206416 Stem cell signals in pancreatic adenocarcinoma metastasis and therapy resistance	Lytle, Nikki Katherine University of California, San Diego
F31CA210627 Functional Interrogation of Kdm6a-Dependent Tumor Suppression during Pancreatic Cancer	Winters, Ian Paul Stanford University

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
F31CA210631 Elucidating the Role of Fasting in GI Radioprotection: Applications in Pre-Clinical Pancreatic Cancer Model	De La Cruz Bonilla, Marimar University of TX MD Anderson Can Ctr
F31CA213731 Pathophysiological role and therapeutic potential of microRNA-29 in pancreatic cancer autophagy	Kwon, Jason Indiana Univ-Purdue Univ at Indianapolis
F31CA220750 at the nexus of redox and signaling pathways: regulation of NAD+ kinase	Schild, Tanya Weill Medical Coll of Cornell Univ
F31CA221066 Examining the Heterogeneity of Fibroblasts in the Pancreatic Microenvironment	Garcia, Paloma Elizabeth University of Michigan at Ann Arbor
F31EB22414 In-vivo characterization of pancreatic field carcinogenesis using spatially resolved reflectance measurements via a fiber optic probe	Eshein, Adam Northwestern University
F31EY26786 Determining the role of 3D nuclear architecture in stochastic gene expression	Viets, Kayla Chelsea Johns Hopkins University
F31HG8912 Computational Modeling of Heterogeneous Gene Expression in Single Cells	Welch, Joshua Univ of North Carolina Chapel Hill
F32CA177072 Mechanisms of tumor suppression by epigenetic regulators in pancreatic cancer	Livshits, Geulah Yevgeniya Sloan-Kettering Inst Can Research
F32CA180374 Deciphering the Role of eIF5A/PEAK1 Pathway in Pancreatic Cancer	Fujimura, Ken University of California, San Diego
F32CA180452 Developing an Anti-sialyl-Lewisa Diabody for ImmunoPET Imaging of Pancreas Cancer	Houghton, Jacob Sloan-Kettering Inst Can Research
F32CA180606 Investigating YAPs role during pathogenesis of pancreatic ductal adenocarcinoma	Staley, Binnaz Kucuk University of California, San Francisco
F32CA180717 The Characterization of the New Tumor Suppressor USP9X in Pancreatic Cancer	Hwang, Chang-Il Cold Spring Harbor Laboratory
F32CA192761 Genomic Landscape of Pancreatic Cancer Metastasis	Balli, David University of Pennsylvania
F32CA192786 Novel Combination Therapeutic Strategies to Ablate Resistance to Hsp90 Inhibitors	Koren, John Sloan-Kettering Inst Can Research

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
F32CA192904 Finding Novel Pancreatic Cancer Oncogenes Using an Innovative 3D Culture System	Baker, Lindsey A Cold Spring Harbor Laboratory
F32CA200024 Munc13-4 regulates Ca²⁺-stimulated exosome release during EMT	Messenger, Scott W University of Wisconsin-Madison
F32CA200078 Chemical genetic investigation of metastatic seeding in pancreatic ductal adenocarcinoma using novel multiplexed in vivo screening	Schulze, Christopher James Stanford University
F32CA200278 Novel BPTES Analogs for the Treatment of Pancreatic Cancer	Zimmermann, Sarah Johns Hopkins University
F32CA206234 Exploring BCL-XL addiction in pancreatic ductal adenocarcinoma	Soderquist, Ryan Duke University
F32CA210387 The role of Prrx1 in acinar-ductal metaplasia during pancreatic tumorigenesis	Collins, Meredith A University of Pennsylvania
F32CA210421 Understanding cell intrinsic and context dependent metabolic adaptations of cancer cell	Danai, Laura Victoria Massachusetts Institute of Technology
F32CA210568 Targeting cytokines to the tumor microenvironment using a high affinity single domain antibody to PD-L1	Dougan, Michael Lawrence Massachusetts General Hospital
F32CA213764 The role of neuroendocrine transdifferentiation of pancreatic cancer cells on tumor progression and chemoresistance.	Morrison Joly, Meghan Melinda Oregon Health & Science University
F32CA213810 Understanding metabolic pathways that support redox homeostasis in cancer	Muir, Alexander Massachusetts Institute of Technology
F32CA217455 Impact of Volume-Based Regionalization on Access to Care in Patients Undergoing Pancreatectomy	Fong, Zhi Ven Massachusetts General Hospital
F32CA221094 The role of p120ctn in PDAC epithelial-to-mesenchymal transition and metastasis	Pitarresi, Jason R University of Pennsylvania
F32CA221114 Examination of ceramide signaling in the crosstalk between pancreatic cancer cells and the tumor microenvironment	Hendley, Audrey Marie University of California, San Francisco

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
F32EB18715 Contrast-enhanced intravascular ultrasound imaging of vascular invasion	Lindsey, Brooks D Univ of North Carolina Chapel Hill
F99CA223029 Class III PI3K as an Autophagy Reactivation Switch in Malignant Transformation	Young, Lindsey N University of California Berkeley
K01CA172957 Cancer cell signaling through lipids complexed to proteins	Blind, Raymond Daniel Vanderbilt University
K01DK98285 Resolving the role of nicotine-mediated phosphorylation on pancreatic fibrosis	Paulo, Joao A Harvard Medical School
K07CA204201 Video Informed Consent Tools to Improve Care for Patients With Advanced Pancreatic Cancer	Enzinger, Andrea C Dana-Farber Cancer Inst
K08CA172676 Exploration of a Mutant p53 Reactivating Compound	Carpizo, Darren Richard Rbhs -Cancer Institute of New Jersey
K08CA201581 Role of Interleukin-22 and Innate Lymphoid Cells in Pancreas Cancer Initiation and Progression	Frankel, Timothy Louis University of Michigan at Ann Arbor
K08CA218690 Defining diverse roles of p53 in pancreatic cancer	Kim, Michael Paul University of TX MD Anderson Can Ctr
K08DK105326 The Role of NR5A2 in Pancreas Development and Disease	Nissim, Sahar Brigham And Women's Hospital
K08DK107781 Characterization of the Molecular Determinants of High-Grade Dysplasia in Pancreatic Cancer Precursor Lesions	Wood, Laura Delong Johns Hopkins University
K08DK88945 Dissecting stromal-epithelial interactions in the adult exocrine pancreas	Rhim, Andrew D University of Michigan at Ann Arbor
K08EB12859 Validation of MRI Microvascular Biomarkers in Pancreatic Cancer with Magnetic Nanoparticles	Guimaraes, Alexander Savio Ramos Oregon Health & Science University
K22CA175260 PD2/Paf1 and pancreatic cancer stem cells	Ponnusamy, Moorthy P University of Nebraska Medical Center
K22CA175262 Cellular and Molecular Tumorsuppressor Processes Uncovered by DNA Fork Protection	Schlacher, Katharina University of TX MD Anderson Can Ctr
K22CA178309 Parental Exposure to High Fats Diets and Risk of Pancreatic Cancer in the offspring	De Assis, Sonia Georgetown University

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K99CA188259 Regulation of cancer cell metabolism and growth by the pancreatic tumor stroma	Sherman, Mara H Salk Institute For Biological Studies
K99CA190889 Integrative Analyses to Identify Pancreatic Cancer Susceptibility Genes	Roberts, Nicholas Jason Johns Hopkins University
K99CA207870 Recombinant antibodies containing L-DOPA for stability, functionalization and selection	Thyer, Ross T University of Texas, Austin
N01CA0 IGF::OT::IGF Cancer Prevention By Alpha Enolase Vaccination	Brown, Paul University of TX MD Anderson Can Ctr
N01CA0 IGF::OT::IGF IGF::OF::IGF- Phase III Trial of Carbon Ion Therapy	Guha, Chandan Albert Einstein College of Medicine
N01CA0 IGF::OT::IGF Statin Therapy To Reduce The Risk of Recurrent Pancreatitis	Khan, Seema Northwestern University
N01CA0 PHASE III Trial of Carbon Ion Therapy	Guha, Chandan Albert Einstein College of Medicine, Inc
N43CA0 IGF::OT::IGF Targeted Radionuclide Therapy of Pancreatic Cancer	Budde, Raymond Joseph Houston Pharmaceuticals, Inc.
P01CA159992 MR-Guided Precision Thermal Therapy of Retroperitoneal Tumors	Sommer, Frank Graham Stanford University
P01CA163200 Inflammatory processes In diet-Induced pancreatic cancer promotion	Eibl, Guido Erwin Michael University of California Los Angeles
P01CA210944 Project 1: Clinical and immune impact of radiation and dual checkpoint blockade in patients	Vonderheide, Robert H University of Pennsylvania
P01CA67166 The Role of Ire1 in Modulating the Response of Tumors to Hypoxia and Radiation	Koong, Albert Stanford University
P01CA80124 Targeting Stroma to Improve Therapy of Pancreatic Adenocarcinoma	Boucher, Yves Massachusetts General Hospital
P01CA84203 Core B: Biological Models, Biostatistics, Molecular Pathology and Microscopy	Bouma, Brett E Massachusetts General Hospital

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
P01CA94237 Engineering T Cells For Pancreatic Cancer	Heslop, Helen E (Contact); Rooney, Cliona M Baylor College of Medicine
P20CA192994 Administrative Core	Li, Ellen State University New York Stony Brook
P20CA192996 Administrative Core	Mccombie, William Richard Cold Spring Harbor Laboratory
P20GM103480 Development of Metabolically Active Linkers (MALs) to Improve Diagnostic and Radiotherapeutic HPMA Copolymers	Garrison, Jered C University of Nebraska Medical Center
P20GM109024 Center for Diagnostic and Therapeutic Strategies in Pancreatic Cancer	Mallik, Sanku North Dakota State University
P30CA13330 Experimental Therapeutics	Goldman, Israel David Albert Einstein College of Medicine
P30CA15704 Research Program: Gastrointestinal Cancer	Grady, William Mallory Fred Hutchinson Cancer Research Center
P30CA16520 Cancer Therapeutics Program	Lerman, Caryn E University of Pennsylvania
P30CA36727 Planning and Evaluation	Cowan, Kenneth H University of Nebraska Medical Center
P30CA46592 Cancer Cell Biology	Wicha, Max S University of Michigan at Ann Arbor
P30CA56036 Gastrointestinal Cancer	Knudsen, Karen E Thomas Jefferson University
P30CA68485 Gastrointestinal Cancer Research Program (GI) (Project-005)	Berlin, Jordan D Vanderbilt University
P41EB24495 Imaging Agents for Inflammatory Components of Malignancy	Pomper, Martin G Johns Hopkins University
P50AA11999 Animal Core	Tsukamoto, Hidekazu University of Southern California
P50CA102701 NFAT Transcription Factors as Therapeutic Targets in Pancreatic Cancer	Billadeau, Daniel D Mayo Clinic Rochester
P50CA127003 Administration, Evaluation, and Planning	Fuchs, Charles S Dana-Farber Cancer Inst
P50CA130810 Translational Research in GI Cancer	Brenner, Dean E University of Michigan at Ann Arbor

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
P50CA196510 Core A: Administrative Core	Hawkins, William G Washington University
P50CA86355 Center for Molecular Imaging Research at MGH/HMS	Weissleder, Ralph Massachusetts General Hospital
R00CA155045 Mechanism-based therapies for pancreatic cancer informed by stromal microrheology	Celli, Jonathan P University of Massachusetts Boston
R00CA158582 Role of epigenetic regulators in pancreatic cancer	Tzatsos, Alexandros George Washington University
R01AA24698 Alcohol Carcinogenesis	Srivastava, Rakesh K Lsu Health Sciences Center
R01AA24770 A pooling project on alcohol use and risk of cancers with inconsistent prior evidence, with an emphasis in non-smokers.	Ferrari, Pietro (Contact); Smith-Warner, Stephanie A International Agency For Res On Cancer
R01AI58072 Structural Basis for Chemokine Function	Volkman, Brian F Medical College of Wisconsin
R01AR60209 FoxO signaling and skeletal muscle atrophy	Judge, Andrew Robert University of Florida
R01AT7448 Oxidative stress and programmed death pathways: Cross talk in pancreatic cancer	Kumar, Addanki Pratap University of Texas Hlth Science Center
R01CA100062 Mechanism of myeloid cell defect in cancer	Gabrilovich, Dmitry I Wistar Institute
R01CA104125 Cytoskeletal Dynamics in Pancreatic Cancer Metastasis	Mc Niven, Mark A (Contact); Razidlo, Gina Lynn Mayo Clinic Rochester
R01CA118374 Calcineurin-NFAT regulates endothelial activation in pre-metastatic sites	Ryeom, Sandra W University of Pennsylvania
R01CA124723 The Inhibition of HSP70 Induces Apoptosis in Pancreatic Cancer Cells	Saluja, Ashok K University of Minnesota
R01CA131045 ATDC Function in Human Pancreatic Adenocarcinoma	Simeone, Diane M University of Michigan at Ann Arbor
R01CA132755 Molecular Mechanisms of BRCA1-Dependent DNA Damage Response and Tumorigenesis	Yu, Xiaochun Beckman Research Institute/City of Hope
R01CA135274 Overcoming pancreatic tumor resistance to gemcitabine	Cui, Zhengrong University of Texas, Austin

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R01CA138441 Mechanisms of MEK/ERK growth arrest signaling	Park, Jong-In Medical College of Wisconsin
R01CA138701 Role of Dietary Zinc Transporter ZIP4 in Pancreatic Cancer	Li, Min University of Oklahoma Hlth Sciences Ctr
R01CA138723 Mechanism-Based Use of Chk1 Inhibitors in Pancreas Cancer	Maybaum, Jonathan (Contact); Lawrence, Theodore S University of Michigan at Ann Arbor
R01CA142669 Fluorophore-Conjugated Antibodies for Imaging and Resection of GI Tumors	Bouvet, Michael (Contact); Yang, Meng University of California, San Diego
R01CA150142 Cellular diversity and clinical relevance of stem cells in pancreatic cancer	Matsui, William H Johns Hopkins University
R01CA150190 Targeting Pancreatic Cancer Using Peptide Chemistry: From Bench to Bedside	Mukhopadhyay, Debabrata (Contact); Spaller, Mark R Mayo Clinic Jacksonville
R01CA151588 Mechanisms of Pancreatic Inflammation, Tissue Repair and Carcinogenesis	Pasca Di Magliano, Marina University of Michigan at Ann Arbor
R01CA154321 Prevention of Tumor Progression by a Novel Approach	Sarkar, Fazlul H Wayne State University
R01CA154451 Ultrasound-enhanced drug penetration for treatment of pancreatic cancer	Hwang, Joo Ha University of Washington
R01CA154517 Disclosing Genomic Incidental Findings in a Cancer Biobank: An ELSI Experiment	Petersen, Gloria M (Contact); Koenig, Barbara A; Wolf, Susan M Mayo Clinic Rochester
R01CA154586 The anti-senescence activity of trefoil factor 1	Wang, Xiao-Fan Duke University
R01CA154649 The role of entosis in human cancers	Overholtzer, Michael H Sloan-Kettering Inst Can Research
R01CA154823 Validation and Fine-Scale Mapping of Pancreatic Cancer Susceptibility Loci (Study)	Klein, Alison P Johns Hopkins University
R01CA154846 MRI Capable Receptor Targeted Drug Delivery for Pancreatic Cancer	Mao, Hui (Contact); Yang, Lily Emory University
R01CA155117 Mutual regulation of PTEN and P-REX2a in normal and cancer cells	Parsons, Ramon E Icahn School of Medicine at Mount Sinai

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R01CA155332 Role of Hypoxia-Induced miR-210 in Tumor Metabolism	Ivan, Mircea Indiana Univ-Purdue Univ at Indianapolis
R01CA155620 RON Receptor in Pancreatic Cancer Biology and Therapy	Lowy, Andrew M University of California, San Diego
R01CA157490 Investigating the Role of Autophagy in Pancreatic Cancer Radiation Resistance	Kimmelman, Alec New York University School of Medicine
R01CA157738 Novel Single Domain Antibodies with Multivalency and Multispecificity	Liu, Rihe Univ of North Carolina Chapel Hill
R01CA157980 Mechanisms of the Stromal Response to Smoothened Inhibition in Pancreatic Cancer	Olive, Kenneth P Columbia University Health Sciences
R01CA159222 ADAM17 in pancreatic cancer and pancreatitis	Crawford, Howard C University of Michigan at Ann Arbor
R01CA160417 Targeting HMGB1-mediated Autophagy in Cancer Therapy	Tang, Daolin University of Pittsburgh at Pittsburgh
R01CA160924 The role of telomere-related tetraploidization in cancer	De Lange, Titia Rockefeller University
R01CA161112 Overcoming stromal barriers to therapeutics in pancreas cancer	Hingorani, Sunil R Fred Hutchinson Cancer Research Center
R01CA161283 N-3 Fatty Acid-Induced Akt Suppression: Chemoprevention for Pancreatic Neoplasia	Grippe, Paul J University of Illinois at Chicago
R01CA161976 Stat3 Signaling in Pancreas Cancer	Merchant, Nipun B University of Miami School of Medicine
R01CA163541 Exploiting tumor stroma interactions for cancer therapy	Powis, Garth Sanford Burnham Prebys Medical Discovery Institute
R01CA163649 Targeting MUC1-induced Tumor-stromal Metabolic Cross-talk in Pancreatic Cancer	Singh, Pankaj Kumar University of Nebraska Medical Center
R01CA163698 Dissection and manipulation of RB function	Dyson, Nicholas J Massachusetts General Hospital
R01CA163764 On the path to the clinic: Lead optimization and pathway analysis of the pancreatic cancer-selective drug conjugate SW V-49	Hawkins, William G (Contact); Spitzer, Dirk M Washington University

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R01CA163798 IKKalpha, autophagy, obesity and injury enhanced pancreatic cancer	Karin, Michael University of California, San Diego
R01CA163895 Selective Sensitization of Pancreatic Cancer to Therapy by Chk1 and PARP1 Inhibit	Morgan, Meredith A University of Michigan at Ann Arbor
R01CA164041 Aldo-keto reductase family 1 member B10 AKR1B10 in pancreatic carcinogenesis	Yang, Guang-Yu Northwestern University at Chicago
R01CA164964 Prospective Study of Human Oral Microbiome and Pancreatic Cancer Risk	Ahn, Jiyong New York University School of Medicine
R01CA166150 Microbiomes in Human Pancreatic Cancer	Michaud, Dominique S Tufts University Boston
R01CA167174 The role of fibroblasts in the activities of tissue penetrating peptides	Sugahara, Kazuki Columbia University Health Sciences
R01CA167291 Novel Role of Ref-1 in Pancreatic Cancer Etiology and Progression	Kelley, Mark R (Contact); Fishel, Melissa L Indiana Univ-Purdue Univ at Indianapolis
R01CA167535 Novel Nanoparticle Therapy for Pancreatic Cancer	Matters, Gail L (Contact); Kester, Mark Pennsylvania State Univ Hershey Med Ctr
R01CA168448 Next Generation Oncolytic Adenovirus for Advanced Pancreatic Cancer Treatment	Yamamoto, Masato University of Minnesota
R01CA168611 Toll-like Receptor Regulation of Pancreatic Tumorigenesis	Miller, George New York University School of Medicine
R01CA168712 Highly Specific and Efficient Vectors for Targeting Pancreatic Cancer	Kelly, Kimberly A (Contact); French, Brent A; Logsdon, Craig D University of Virginia
R01CA169046 The chemical biology of pharmacological ascorbate in cancer treatment	Buettner, Garry R University of Iowa
R01CA169086 PDG Links Stem Cell Niche to Pancreatic Epithelial Renewal, Repair and Cancer	Thayer, Sarah P University of Nebraska Medical Center
R01CA169122 Genetic Susceptibility and Risk Model for Pancreatic Cancer	Wei, Peng University of Texas Hlth Sci Ctr Houston
R01CA169134 HLTF gene silencing: a novel determinant of sensitivity to autophagy inhibition	Amaravadi, Ravi K University of Pennsylvania

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R01CA169281 Targeting Stromal Collagen in Pancreatic Cancer	Han, Haiyong (Contact); Von Hoff, Daniel D Translational Genomics Research Inst
R01CA169702 Annexin A2 as a mediator of pancreatic cancer metastases	Zheng, Lei Johns Hopkins University
R01CA169774 Detection of in vivo enzyme activities with CEST MRI	Pagel, Mark 'Marty' David University of Arizona
R01CA170495 A Drosophila Model Linking Diet-induced Obesity and Cancer (PQ 1)	Cagan, Ross Leigh Icahn School of Medicine at Mount Sinai
R01CA170946 Triptolide Augments Death Receptor Mediated Apoptosis in Pancreatic Cancer	Saluja, Ashok K University of Minnesota
R01CA172233 Molecular Mediators of Pancreatic Cancer Invasion and Progression	Xie, Keping University of TX MD Anderson Can Ctr
R01CA172431 Inhibition of pancreatic carcinogenesis via targeting c-Raf and sEH	Yang, Guang-Yu Northwestern University at Chicago
R01CA172560 Mechanisms of action of the Smyd3 methyltransferase in cancer cells	Gozani, Or P (Contact); Sage, Julien Stanford University
R01CA172880 Advanced Glycation End-Products and Risk of Pancreatic Cancer	Jiao, Li Baylor College of Medicine
R01CA174388 Single-cell phenotyping for therapeutic stratification in pancreatic cancer	Wirtz, Denis Johns Hopkins University
R01CA174768 Understanding optimal delivery systems for cancer care	Miller, David C University of Michigan at Ann Arbor
R01CA174861 Novel Theranostics for Pancreatic Cancer	Davydova, Julia University of Minnesota
R01CA175495 The B7x pathway in the tumor microenvironment	Zang, Xingxing Albert Einstein College of Medicine
R01CA175772 Targeting tumor-stromal interaction for pancreatic cancer therapy	Singh, Ajay Pratap University of South Alabama
R01CA177857 Role of Neurogenic Inflammation in Pancreatic Cancer	Davis, Brian M University of Pittsburgh at Pittsburgh

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R01CA178015 Crucial Microenvironmental Cofactors for Pancreatic Cancer Pathogenesis	Collisson, Eric University of California, San Francisco
R01CA178627 Novel Experimental Therapeutics for Pancreatic Cancer	Lomberk, Gwen Mayo Clinic Rochester
R01CA179645 Mechanisms and targeting of SWI/SNF alterations in pancreatic cancer	Pollack, Jonathan R Stanford University
R01CA179991 (PQB6) Genetics of Subclonal Evolution in Pancreatic Cancer	Iacobuzio-Donahue, Christine A Sloan-Kettering Inst Can Research
R01CA180057 (PQD6) Muscle stem cells and cancer cachexia	Guttridge, Denis C Ohio State University
R01CA181185 Inhibition of CDC25B phosphatase by targeting protein-protein interactions	Cierpicki, Tomasz University of Michigan at Ann Arbor
R01CA181244 Discovery of Risk Loci and Genomics of Pancreatic Cancer through Exome Sequencing	Scheet, Paul A (Contact); Huff, Chad Daniel University of TX MD Anderson Can Ctr
R01CA181360 Clustered semi-competing risks analysis in quality of end-of-life care studies	Haneuse, Sebastien Harvard School of Public Health
R01CA181385 Stellate cells and their progenitor precursors in pancreas cancer progression	Provenzano, Paolo University of Minnesota
R01CA181450 Pancreatic Ductal Adenocarcinoma is a disease of constitutive autophagy	Zeh, Herbert J (Contact); Lotze, Michael T University of Pittsburgh at Pittsburgh
R01CA182495 Fingerprinting Invasive Membrane Protrusions to Discover Metastatic Signatures	Klemke, Richard L University of California, San Diego
R01CA182869 The role of DCLK1 in the initiation of pancreatic ductal adenocarcinoma	Houchen, Courtney Wayne University of Oklahoma Hlth Sciences Ctr
R01CA183459 Targeting Mucin and EGFR Axis in Pancreatic Cancer	Batra, Surinder K University of Nebraska Medical Center
R01CA183984 A novel miR-198 replacement therapy for pancreatic cancer	Yao, Qizhi C Baylor College of Medicine
R01CA184051 Pharmacological Ascorbate as a Radiosensitizer in Pancreatic Cancer	Cullen, Joseph J University of Iowa

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R01CA184274 Functional Significance of CD133 in Pancreatic Cancer	Banerjee, Sulagna University of Minnesota
R01CA185357 (PQD3)Molecular Profiles associated with Long-Term Survival in pancreas Cancer	Ahuja, Nita (Contact); Easwaran, Hariharan ; Iacobuzio-Donahue, Christine A Johns Hopkins University
R01CA186043 Musashi-mediated control of pancreatic cancer growth and progression	Reya, Tannishtha (Contact); Lowy, Andrew M University of California, San Diego
R01CA186286 Pancreatic Cancer Cell Mechanics and Imaging	Konstantopoulos, Konstantinos Johns Hopkins University
R01CA186338 ZIP4 is a Novel Molecular Target in Human Pancreatic Cancer	Li, Min (Contact); Fernandez-Zapico, Martin Ernesto University of Oklahoma Hlth Sciences Ctr
R01CA186662 Novel Small Molecule MDM2 Inhibitors for Pancreatic Cancer Therapy	Zhang, Ruiwen Texas Tech University Health Scis Center
R01CA186885 Targeting BET Bromodomain in Pancreatic Cancer	Munshi, Hidayatullah G Northwestern University at Chicago
R01CA187090 The Yap-Tead transcriptional complex in Kras-induced Pancreatic Ductal Adenocarci	Yi, Chunling Georgetown University
R01CA187678 PET Imaging-guided Personalized Therapy in Pancreatic Cancer	Radu, Caius Gabriel (Contact); Czernin, Johannes ; Donahue, Timothy R University of California Los Angeles
R01CA188048 Investigating a Novel Glutamine Metabolism Pathway in Pancreatic Cancer	Kimmelman, Alec Dana-Farber Cancer Inst
R01CA188134 Nrf2 Regulation of Ductal Pancreatic Cancer Etiology and Treatment Response	Tuveson, David A Cold Spring Harbor Laboratory
R01CA188252 ROS-targeted therapy for pancreatic cancer	Neamati, Nouri University of Michigan at Ann Arbor
R01CA188300 Motion Management of Pancreatic Cancer in MRI-Guided Radiotherapy	Sheng, Ke University of California Los Angeles
R01CA188430 Synergistic targeting of cholesterol metabolism and EGFR signaling in cancer	Astsaturov, Igor Research Inst of Fox Chase Can Ctr
R01CA188464 Epigenetic priming in pancreatic cancer chemotherapy	Govindarajan, Rajgopal Ohio State University

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R01CA188654 MR-HIFU induced drug delivery for pancreatic cancer treatment	Lee, Donghoon University of Washington
R01CA190092 (POA-4) Organoid Omics To Detect And Defeat Ductal Pancreatic Cancer	Tuveson, David A Cold Spring Harbor Laboratory
R01CA190717 Alternatively Spliced Tissue Factor and Pathobiology of Pancreatic Cancer	Bogdanov, Vladimir University of Cincinnati
R01CA193365 Molecular Imaging of Cachexia in Pancreatic Cancer	Bhujwalla, Zaver M Johns Hopkins University
R01CA193650 The adaptive kinome in pancreatic cancer	Yeh, Jen Jen (Contact); Johnson, Gary L Univ of North Carolina Chapel Hill
R01CA193887 Targeting extracellular matrix-cancer stem cell interactions in pancreatic cancer	Matsui, William H Johns Hopkins University
R01CA193895 Glutaminase Inhibitor Drug Discovery and Nanoparticle-Based Delivery for Pancreatic Cancer Therapy	Slusher, Barbara Stauch (Contact); Hanes, Justin S; Le, Anne Johns Hopkins University
R01CA194321 Imaging drug uptake and distribution in chemoradiation therapy of pancreatic cancer	Humm, John L (Contact); Lowery, Maeve Aine; Wu, Abraham Sloan-Kettering Inst Can Research
R01CA194593 PQB3: Mechanisms & Targeting of Sonic Hedgehog Signaling in Muscle Wasting of Cancer Cachexia	Zimmers, Teresa A Indiana Univ-Purdue Univ at Indianapolis
R01CA195473 Repurposing Disulfiram: A Novel Strategy to Help Cancer Patients Regain Muscle	Jatoi, Aminah (Contact); Fernandez-Zapico, Martin Ernesto Mayo Clinic Rochester
R01CA195586 Targeted Radiation Therapy for Pancreatic Cancer	Batra, Surinder K (Contact); Jain, Maneesh University of Nebraska Medical Center
R01CA195651 Clinical Significance of Pancreatic Cancer Differentiation and Dedifferentiation	Xie, Keping University of TX MD Anderson Can Ctr
R01CA195708 Molecular mechanism of bitter melon juice efficacy against pancreatic cancer.	Agarwal, Rajesh University of Colorado Denver
R01CA196215 Systemic Therapy with Infectivity-Selective Oncolytic Adenovirus for PDAC	Yamamoto, Masato University of Minnesota
R01CA196941 Novel Signaling Pathways Regulating Pancreatic Cancer Pathogenesis	Wang, Huamin University of TX MD Anderson Can Ctr

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R01CA197999 Development of Quinoxaline Based IKKbeta Inhibitors for Kras Driven Cancers	Natarajan, Amarnath University of Nebraska Medical Center
R01CA198074 Dosage-Dependent Hedgehog Signaling in Pancreatic Cancer	Allen, Benjamin (Contact); Pasca Di Magliano, Marina University of Michigan at Ann Arbor
R01CA198090 Integrated Signaling in Pancreatic Cancer Progression	Xie, Keping University of TX MD Anderson Can Ctr
R01CA198096 Tumor priming sequences combined with novel nanoparticle drug carriers for enhanced therapeutic efficacy in pancreatic cancer: a tripartite USA/Northern Ireland/Republic of Ireland consortium	Straubinger, Robert M (Contact); Barron, Niall ; Ma, Wen Wee ; Scott, Chris State University of New York at Buffalo
R01CA198128 Exploiting Caveolae-Dependent Albumin Endocytosis to Optimize Therapy in Pancreatic Cancer	Williams, Terence Marques Ohio State University
R01CA199064 Tumor subtypes and therapy response in pancreatic cancer	Yeh, Jen Jen (Contact); Graves, Lee M; Johnson, Gary L Univ of North Carolina Chapel Hill
R01CA199646 Optimizing Ultrasound Enhanced Delivery of Therapeutics	Forsberg, Flemming Thomas Jefferson University
R01CA200007 Multiplexed imaging of biliary intra-epithelial neoplasia	Seibel, Eric J (Contact); Wang, Thomas D University of Washington
R01CA200755 Exploring the Role of Mitochondrial Fission in Pancreatic Tumorigenesis	Kashatus, David Francis University of Virginia
R01CA201226 High Throughput Screening to Discover Chemical Inhibitors of Quiescin Sulfhydryl Oxidase 1	Faigel, Douglas (Contact); Sergienko, Eduard A Mayo Clinic Arizona
R01CA202762 Pharmacogenomic and circulating tumor cell approach to individualized treatment of pancreatic cancer	Yu, Kenneth H (Contact); Ricigliano, Mark Sloan-Kettering Inst Can Research
R01CA202846 Targeted therapy of peritoneal carcinomatosis using theranostic nanoparticles	Yang, Lily (Contact); Mao, Hui ; Wang, Y Andrew Emory University
R01CA203108 Prognostic Biomarkers for ZIP4-mediated Cachexia in Pancreatic Cancer	Li, Min (Contact); Li, Yi-Ping University of Oklahoma Hlth Sciences Ctr

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R01CA203737 Targeting Human Cancers with Hemizygous Deletion of TP53	Lu, Xiongbin University of TX MD Anderson Can Ctr
R01CA204969 Uncovering Role of Exosomes in Regulating Pancreatic Cancer Cell Metabolism	Nagrath, Deepak University of Michigan at Ann Arbor
R01CA206069 Development of Targeted Nanotechnology Platform for Pancreatic Cancer	Chauhan, Subhash C University of Tennessee Health Sci Ctr
R01CA206105 Regulation of Pancreatic Oncogenesis by the Gut Microbiome	Miller, George (Contact); Saxena, Deepak New York University School of Medicine
R01CA207031 The molecular mechanisms of metabolism reprogramming in mutant Kras/Ink4a-driven pancreatic ductal adenocarcinoma	Chiao, Paul J University of TX MD Anderson Can Ctr
R01CA207189 Regulation of Nutrient Stress-Induced Macropinocytosis in Pancreatic Ductal Adenocarcinoma	Commisso, Cosimo Sanford Burnham Prebys Medical Discovery Institute
R01CA207236 Fasting Protects Small Intestinal Stem Cells from Lethal DNA Damage: Mechanistic Insight and Preclinical Translation	Piwnicka-Worms, Helen M University of TX MD Anderson Can Ctr
R01CA207643 Real-time monitoring of circulating pancreatic tumor cells and clusters	Carpenter, Erica University of Pennsylvania
R01CA208108 MUC16 in Pancreatic Cancer Progression and Metastasis	Radhakrishnan, Prakash University of Nebraska Medical Center
R01CA208205 Reengineering obesity-induced abnormal microenvironment to improve PDAC treatment	Fukumura, Dai (Contact); Jain, Rakesh K Massachusetts General Hospital
R01CA208272 Developing novel combination therapies for pancreatic cancer	Yoon, Karina J University of Alabama at Birmingham
R01CA208335 Label free microfluidic isolation, characterization and ex vivo expansion of CTCs	Nagrath, Sunitha University of Michigan at Ann Arbor
R01CA208517 Determinants of pancreatic cancer and malignant melanoma phenotypes in CDKN2A hereditary kindreds	Petersen, Gloria M (Contact); Fernandez-Zapico, Martin Ernesto; Li, Hu Mayo Clinic Rochester

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R01CA208644 (PQ11) Targeting STING in the context of chemoradiation therapy to overcome poor preexisting immunity in mouse models of pancreatic cancer.	Crittenden, Marka Providence Portland Medical Center
R01CA209798 Investigating the cause of racial/ethnic disparity in pancreatic cancer incidence	Setiawan, Veronica Wendy University of Southern California
R01CA210192 Targeted Nanotherapy for Pancreatic Cancer	Chauhan, Subhash C University of Tennessee Health Sci Ctr
R01CA210439 Targeting the Metabolic Basis of Cachexia in Pancreatic Cancer	Singh, Pankaj Kumar University of Nebraska Medical Center
R01CA210637 Role of PD2/Paf1 in Pancreatic Acinar to Ductal Metaplasia	Ponnusamy, Moorthy P (Contact); Batra, Surinder K University of Nebraska Medical Center
R01CA211082 Optical imaging of pancreas cancer organoids for drug development and personalized treatment	Skala, Melissa Caroline Morgridge Institute For Research, Inc.
R01CA211087 Noninvasive prediction of tumor response to gemcitabine using MRI	Liu, Guanshu Hugo W. Moser Res Inst Kennedy Krieger
R01CA211176 Preclinical Analyses of NAD Kinase as a Redox Vulnerability for the Treatment of Pancreatic Cancer	Elsea, Sarah H Baylor College of Medicine
R01CA211554 First in human study with 18F-avb6-targeting peptide	Sutcliffe, Julie L University of California at Davis
R01CA211720 Synthetic Lethal Targeting of Growth Factor Receptors	Peterson, Blake University of Kansas Lawrence
R01CA211878 Common genetically altered pathways as targets for therapy in pancreatic cancer	Witkiewicz, Agnieszka (Contact); Knudsen, Erik University of Arizona
R01CA212086 Optimizing the Treatment of Pancreatic Adenocarcinoma	Hur, Chin (Contact); Kong, Chung Massachusetts General Hospital
R01CA212350 Stroma targeted theranostic nanoparticles for pancreatic cancer	Mcnally, Lacey R Wake Forest University Health Sciences
R01CA212600 Targeting HuR to improve a synthetic lethal therapy for pancreatic cancer	Brody, Jonathan Thomas Jefferson University

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R01CA213278 Reprogramming Tumor Microenvironment by Nanoparticle	Mukherjee, Priyabrata University of Oklahoma Hlth Sciences Ctr
R01CA215607 Targeting cysteine import to induce ferroptotic cell death in pancreatic cancer	Olive, Kenneth P Columbia University Health Sciences
R01CA216853 Metabolic Regulation of Tumor Progression, Metastasis and Chemoresistance by SIRT5/ELK3 signaling in Pancreatic Cancer	Singh, Pankaj Kumar University of Nebraska Medical Center
R01CA220236 Wnt/?-catenin Signaling in Pancreatic Oncogenesis	Xie, Keping University of TX MD Anderson Can Ctr
R01CA34610 TGFβ-SMAD Signaling in Stem Cell Differentiation and Tumor Suppression	Massague, Joan Sloan-Kettering Inst Can Research
R01CA51210 Biochemical and molecular studies on NQO1. Design of less toxic Hsp90 inhibitors	Ross, David University of Colorado Denver
R01CA54358 Epigenetic Drivers of Cancer Progression	Feinberg, Andrew P Johns Hopkins University
R01CA55360 Mechanisms of Signal Transduction by Ras Proteins	Bar-Sagi, Dafna New York University School of Medicine
R01CA75059 Dysregulation of TGF Beta Action Pancreatic Cancer	Korc, Murray Indiana Univ-Purdue Univ at Indianapolis
R01CA77575 Causes & Consequences of Acid pH in Tumors	Gillies, Robert J H. Lee Moffitt Cancer Ctr & Res Inst
R01CA82683 Signal Transduction by Tyrosine Phosphorylation	Hunter, Tony R Salk Institute For Biological Studies
R01CA97022 Survival Mechanisms of Invasive Carcinoma Cells	Klemke, Richard L University of California, San Diego
R01CA98468 Improving CPT-11 Efficacy Using Structural and Chemical Biology	Redinbo, Matthew R Univ of North Carolina Chapel Hill
R01DK106266 Development, cellular plasticity and homeostasis of the exocrine pancreas	Sosa-Pineda, Beatriz St. Jude Children's Research Hospital
R01DK110361 The Hippo signaling pathway in pancreatic epithelial cells orchestrate the inflammatory response R01	Wang, Pei University of Texas Hlth Science Center
R01DK55489 Pancreas Transcription Factors and Disease Model Systems	Konieczny, Stephen F Purdue University

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R01DK60694 Networks for functional regulation of pancreatic acinar-ductal metaplasia and epithelial plasticity	Rustgi, Anil K University of Pennsylvania
R01DK70888 Acinar Biology and Pancreatic Disease	Groblewski, Guy E University of Wisconsin-Madison
R01EB17270 Light-Triggered Drug Release in Primed Pancreatic Tumors	Lovell, Jonathan F State University of New York at Buffalo
R01EB17853 Polymeric Nanomedicines of Small Molecules and miRNA for Treating Pancreatic Canc	Mahato, Ram I University of Nebraska Medical Center
R01EB20125 Theranostic nanoparticles for detection and treatment of pancreatic cancer	McNally, Lacey R University of Louisville
R01EB25173 Endoscopic Fine-Needle Polarized Scanning Spectroscopy for Pancreatic Cystic Lesions Diagnosis	Perelman, Lev T Beth Israel Deaconess Medical Center
R01GM105964 The molecular determinants of zinc uptake mediated by hZIP4	Dempski, Robert Edward Worcester Polytechnic Institute
R01GM111735 Phosphatidylinositol 4-phosphate Hydrolysis in Spatiotemporal Cell Signaling	Smrcka, Alan V University of Rochester
R01GM113166 Polymeric Nanomedicines of Hedgehog Inhibitor and miRNA for Treating Pancreatic Cancer	Mahato, Ram I (Contact); Batra, Surinder K University of Nebraska Medical Center
R01GM76186 Chromosome inverted fusions, dicentrics and genome instability	Weinert, Ted A University of Arizona
R01HD65800 Mechanisms Controlling Epithelial Homeostasis	O'reilly, Alana M Research Inst of Fox Chase Can Ctr
R03CA179681 Pancreatic cystic lesions: descriptive epidemiology and natural history	Bracci, Paige M University of California, San Francisco
R03CA181727 A novel combination approach for pancreatic cancer prevention	Mackenzie, Gerardo Guillermo State University New York Stony Brook
R03CA182679 Developing Nanotechnology to Target HMGA1 in Pancreatic Cancer	Resar, Linda M S Johns Hopkins University
R03CA184544 Role of Piceatannol in Cancer Cachexia	Kim, Kee-Hong Purdue University

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R03CA191621 Developing a Screen for Novel Therapies with Reprogrammed Pancreatic Cancer Cells	Resar, Linda M S Johns Hopkins University
R03CA201502 Multiplex Conditional Mice for Rapid and Affordable Pre-clinical Testing	Moriarity, Branden S University of Minnesota
R03CA201738 Role of CRABP-II in pancreatic cancer metastasis	Yu, Shuiliang (Contact); Zhou, Lan Case Western Reserve University
R03CA208510 Interpreting limits to nanoparticle delivery in high-stroma low-perfusion tumors	Russell, Stewart Dartmouth College
R03CA212068 Epigenetic regulation of metabolic reprogramming in pancreatic cancer	Tzatsos, Alexandros George Washington University
R13AA20691 International Symposium of ALPD and Cirrhosis	Tsukamoto, Hidekazu University of Southern California
R13DK107248 PancreasFest 2015: Applying Research Discoveries in Pancreatitis & Pancreatic Cancer to Patient-Centered Care	Whitcomb, David Clement University of Pittsburgh at Pittsburgh
R15CA192160 Multifunctional nanoparticles for combinational therapy of pancreatic cancer	Vivero-Escoto, Juan Luis University of North Carolina Charlotte
R15CA195463 Cellular Pathways Affecting Oncolytic Virus-Host Interactions In Cancer	Grdzlishvili, Valery Zurabovich University of North Carolina Charlotte
R15ES26370 Promotion of pancreatic cancer by perfluorooctanoic acid	Hocevar, Barbara A Indiana University Bloomington
R21AI124687 Stromal IL-6/Jak-STAT signaling and pancreatitis	Ostrowski, Michael C (Contact); Lesinski, Gregory B Ohio State University
R21AR71021 Modeling muscle wasting in cancer cachexia	Guttridge, Denis C Ohio State University
R21CA173120 Therapy of pancreatic cancer with 212Pb-labeled B7-H3 specific Ab and LDE225	Buchsbaum, Donald J (Contact); Ferrone, Soldano University of Alabama at Birmingham
R21CA175699 Pancreatic cancer control by a novel combination treatment	Mackenzie, Gerardo Guillermo State University New York Stony Brook
R21CA176097 N-cadherin and Metastatic Dissemination	Radice, Glenn Lawrence Thomas Jefferson University

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R21CA176364 Directional Motility and ERM Scaffolding in Pathfinder Pancreatic Carcinoma Cells	Mulder, Kathleen M Pennsylvania State Univ Hershey Med Ctr
R21CA179273 Targeting Cell Surface GRP78 as a Novel Therapy for Pancreatic Cancer	Lee, Amy S University of Southern California
R21CA179362 A Creative Integration of Omega-3 Fatty Acids into Pancreatic Cancer Chemotherapy	Cui, Zhengrong University of Texas, Austin
R21CA179541 Evaluation of Positron Emission Tomography-Magnetic Resonance Imaging (PET-MRI)	Fields, Ryan C Washington University
R21CA179668 The Role of SHIP-1 in the Modulation of Immunoregulatory Cells in Pancreatic Canc	Ghansah, Tomar University of South Florida
R21CA180764 An inhibitor of multiple anti-apoptotic gene products for pancreatic cancer	Li, Fengzhi Roswell Park Cancer Institute Corp
R21CA181851 Improving Radiation Therapy For Pancreatic Cancer	Wang, Xinhui Massachusetts General Hospital
R21CA182608 Quantitative Spectroscopic Imaging of Cancer Metabolites in Live Cells and Intact	Cheng, Ji-Xin Purdue University
R21CA182651 Characterization of Drug Survival by Pancreatic Cancer Cells in vitro and in vivo	Yen, Timothy Research Inst of Fox Chase Can Ctr
R21CA182662 Elucidating and targeting epigenetic oncogenic networks in pancreatic cancer	Tzatsos, Alexandros George Washington University
R21CA182692 Utilizing HuR to optimize the treatment of pancreatic cancer	Brody, Jonathan Thomas Jefferson University
R21CA182820 Phosphorylated Form of Activated IKKbeta and Pancreatic Cancer	Natarajan, Amarnath University of Nebraska Medical Center
R21CA182977 Multi-Tracer PET/CT Imaging of Gemcitabine Response in Pancreatic Cancer	Kadmas, Dan J (Contact); Garrido-Laguna, Ignacio University of Utah
R21CA184429 Perioperative Stromal Depletion Strategies in Pancreatic Ductal Adenocarcinoma	Tempero, Margaret A University of California, San Francisco

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R21CA185209 Two phospho-compounds for pancreatic cancer prevention	Mackenzie, Gerardo Guillermo State University New York Stony Brook
R21CA185276 A new energy restriction mimetic that targets pancreatic cancer	Lanza-Jacoby, Susan Patricia Thomas Jefferson University
R21CA185808 Genetic Testing For Men From Hereditary Cancer Families	Schwartz, Marc D Georgetown University
R21CA185909 H3K9 Methylation and Pancreatic Cancer Chemoresistance	Liu, Kebin Augusta University
R21CA186175 Targeting DCLK1 kinase activity in pancreatic cancer	Houchen, Courtney Wayne University of Oklahoma Hlth Sciences Ctr
R21CA186791 Needle biopsy preservation and preparation for rapid 3D pathology of pancreas	Seibel, Eric J University of Washington
R21CA186957 Hedgehog Acyltransferase as a target in cancer	Resh, Marilyn D Sloan-Kettering Inst Can Research
R21CA188818 Targeting PAK4 for Overcoming Drug Resistance in Pancreatic Cancer	Azmi, Asfar Sohail (Contact); Mohammad, Ramzi M Wayne State University
R21CA188858 Investigation of therapeutic modulators of apoptotic priming in pancreatic cancer	Letai, Anthony G Dana-Farber Cancer Inst
R21CA188863 Multiplexed in vivo drug screening: Inhibitors of metastatic seeding	Winslow, Monte Meier (Contact); Bogoyo, Matthew Stanford University
R21CA188911 Adaptable hydrogel platform to study pancreatic cancer	Lin, Chien-Chi Indiana Univ-Purdue Univ at Indianapolis
R21CA189477 GPCRs: novel targets in cancer-associated fibroblasts	Insel, Paul A (Contact); Lowy, Andrew M University of California, San Diego
R21CA189775 Therapeutic Monitoring in Pancreatic Cancer Using an Exosome Based Mass Spec Assay	Lubman, David M University of Michigan at Ann Arbor
R21CA191347 Discoidin Domain Receptors: Novel Players in Pancreatitis and Pancreatic Preneoplasia	Fridman, Rafael A (Contact); Crawford, Howard C Wayne State University
R21CA191515 New transgenic animal model to study pancreatic cancer	Fisher, Paul B Virginia Commonwealth University

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R21CA191631 Dual recombinase models of pancreatic cancer	Seeley, Elliott Scott University of California, San Francisco
R21CA191715 AGX1/2 inhibitors as key modulators of the hexosamine biosynthetic pathway	Yarema, Kevin J Johns Hopkins University
R21CA191923 Targeting PHD2 in Pancreatic Cancer	Han, Haiyong Translational Genomics Research Inst
R21CA191956 TDG as a novel target to enhance gemcitabine killing of pancreatic cancer cells	Bellacosa, Alfonso (Contact); Yen, Timothy Research Inst of Fox Chase Can Ctr
R21CA192629 Glycan control of stem cell-associated pathways in pancreatic cancer	Bellis, Susan L University of Alabama at Birmingham
R21CA194745 High fat diet stimulates pancreatic cancer through the actions of Cholecystokinin	Smith, Jill P Georgetown University
R21CA194764 Regulation of pancreatic ductal adenocarcinoma progression by Hnf4a	Snyder, Eric Lee University of California, San Francisco
R21CA194836 Mouse model to study dependence of pancreatic cancer on Pik3ca for progression	Lin, Richard Z State University New York Stony Brook
R21CA194910 Somatic Engineering-based Models of Pancreatic Cancer	Winslow, Monte Meier Stanford University
R21CA198109 Deciphering SIRT6-dependent metabolic liabilities in Pancreatic cancer	Mostoslavsky, Raul Massachusetts General Hospital
R21CA198265 New HuR inhibitor against pancreatic cancer EMT and CSCs	Chen, Qi University of Kansas Medical Center
R21CA198292 IGF-II-Based Approach to Therapy for Pancreatic Cancer	Macdonald, Richard G University of Nebraska Medical Center
R21CA198365 Dissecting ALK4 Function in Cancer Progression	Blobe, Gerard C Duke University
R21CA199010 Treating pancreatic cancer with Listeria-32P	Gravekamp, Claudia Albert Einstein College of Medicine
R21CA202745 Dim light at night alters pancreatic cell signaling and predisposes to pancreatic adenocarcinoma	Nelson, Randy J Ohio State University

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R21CA205501 Developing Therapy for the Treatment of Cholangiocarcinoma	Yoon, Karina J University of Alabama at Birmingham
R21CA207779 Detection and Histopathology Localization of O-Glycans and Glycosaminoglycans in Tissues	Drake, Richard R Medical University of South Carolina
R21CA209536 Targeting cytokine mediated CREB activation in pancreatic cancer	Nagathihalli, Nagaraj S University of Miami School of Medicine
R21CA213114 Reprogramming Tumor-Associated Macrophages in PDAC with MicroRNA Nano-Vectors	Amiji, Mansoor M (Contact); Mackenzie, Gerardo Guillermo Northeastern University
R21CA215860 CEST MRI assessment of tumor vascular permeability using non-labeled dextrans	Liu, Guanshu Hugo W. Moser Res Inst Kennedy Krieger
R21CA218968 Novel model to study PDAC using normal human pancreatic tissue	Wang, Pei University of Texas Hlth Science Center
R21CA220625 Targeting hyaluronan synthesis and signaling with BET inhibitors in pancreatic cancer	Kumar, Krishan Northwestern University at Chicago
R21EB18537 EUS-Guided Optoelectronic Microprobe for Accurate Pancreatic Neoplasia Diagnosis	Mycek, Mary-Ann University of Michigan at Ann Arbor
R21EB20737 Novel Platform to achieve high avidity of heterodimers for targeted cancer imaging	Zeng, Dexing University of Pittsburgh at Pittsburgh
R21EB22770 High Sensitivity Molecular Ultrasound Imaging in Pancreatic Cancer	Willmann, Juergen Karl (Contact); Dahl, Jeremy Stanford University
R21ES25839 Cytosolic Ah Receptor: Mechanism of Action	Safe, Stephen H Texas A&M Agrilife Research
R21HG9010 An Integrated Microfluidics Platform for Rapid and Sensitive Exosome RNA	Chang, Hsueh-Chia (Contact); Go, David B; Hill, Reginald ; Senapati, Satyajyoti University of Notre Dame
R33CA183685 Advanced Methods to Evaluate Extracellular Matrix and Crosslinking in the Tumor M	Hansen, Kirk C (Contact); Weaver, Valerie Marie University of Colorado Denver
R33CA204704 Multiplex FRET Imaging of Kinase-Epigenome Interregulations in Live Cancer Cells	Wang, Yingxiao University of California, San Diego

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R33CA206949 Advanced Development and Validation of 3 Dimensional Spheroid Culture of Primary Cancer Cells using Nano3D Technology	Spicer, Timothy Patrick Scripps Florida
R33CA225248 Area A: In-Depth Proteome Mapping of the Tumor Microenvironment with Single-Cell Resolution	Kelly, Ryan T Battelle Pacific Northwest Laboratories
R35CA197562 Mediators of cancer cell homeostasis: intervention targets common to diverse types of cancer	Land, Hartmut University of Rochester
R35CA197563 Reversing Cellular immortality in cancer	Artandi, Steven E Stanford University
R35CA197566 Mechanisms governing metastatic dormancy and reactivation	Giancotti, Filippo G University of TX MD Anderson Can Ctr
R35CA197591 Integrative approaches to elucidate p53 transcriptional networks during carcinogenesis	attardi, Laura D Stanford University
R35CA197627 Breaking the Obesity-Cancer Link: New Targets and Strategies	Hursting, Stephen D Univ of North Carolina Chapel Hill
R35CA197684 IKK/NF-kappaB Signaling in Cancer: Therapy, Resistance, and Tumor Initiating Cells	Baldwin, Albert Sidney Univ of North Carolina Chapel Hill
R35CA210263 Oncogenic Ras-induced macropinocytosis: A new paradigm for metabolic adaptation	Bar-Sagi, Dafna New York University School of Medicine
R41CA192689 Retargeting FDA Approved Anticancer Liposomal Drugs to Cancer Stem Cells	Szoka, Francis C Zoneone Pharma, Inc.
R43CA195684 Development of novel targeted agents in pancreatic cancer	Sigalov, Alexander B Signablok, Inc.
R43CA203273 Plasma Generation of Aqueous Chemotherapeutic Solutions	Joslin, Jessica Symbios Technologies, Inc
R43CA206581 ERASE - A new dual thermal ablation/SCN device system for treating pancreatic cancer	Van Buskirk, Robert G Cell Preservation Services, Inc.
R43CA217400 First-in-class TREM-1 inhibitors in combination therapy for pancreatic cancer	Sigalov, Alexander B Signablok, Inc.

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Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R43CA225169 Endoscopic Flexible Pancreatic Tumor Ablation System with Reduced Force Effector and Specialized Ablation Zone	Snook, Kevin A Actuated Medical, Inc.
R43DK107152 Novel technologies for improved slide quality of pancreatic fine-needle aspirates	Nair, Shrikumar Ambujakshan Affinergy, LLC
R44CA183265 FrostBite - A Unique Catheter for Endoscopic Cryoablation	Baust, J M Cell Preservation Services, Inc.
R44CA200186 Molecular MR Imaging of the Desmoplastic Response in Pancreatic Cancer	Humblet, Valerie Collagen Medical, LLC
R44CA203052 Laser Tissue Welding: Breaching Barriers In The Surgical Management of The Pancreas	Wadia, Yasmin (Contact); Barakat, Omar Laser Tissue Welding, Inc.
R44CA210770 Clinical evaluation of the novel, uni-directional, Pd-103 CivaSheet for Pancreatic Cancers	Perez, Kristy Civatech Oncology, Inc.
R44CA224460 Implantable iontophoresis chemotherapy delivery device for direct infusion of gemcitabine into pancreatic adenocarcinoma: Device development and First-in-Human clinical trial	Daunch, William Advanced Chemotherapy Technologies, Inc.
R44CA224994 Ultra-High Content Analysis (UHCA) of Single Cells in Tissue: 60+ channel immunofluorescence labeling kits and companion imaging software for everyone	Nederlof, Michel Quantitative Imaging Systems, LLC
R44DK117472 MUC4/16 assay for the early diagnosis and management of benign and malignant pancreatic diseases	Junker, Wade M (Contact); Jain, Maneesh ; Sasson, Aaron R Sanguine Diagnostics And Therapeutics
R50CA211437 Revealing cancer metabolism via mass spectrometry and isotope tracers	Lu, Wenyun Princeton University
R50CA211462 Critical resources provided by UNMC RAP biorepository stimulate cancer research	Grandgenett, Paul M University of Nebraska Medical Center
R50CA211506 Preclinical Models for Cancer Therapeutic Development	Park, Youngkyu Cold Spring Harbor Laboratory
R56AG16379 RAS Induced Senescence and Tumor Suppression	Lowe, Scott W Sloan-Kettering Inst Can Research

Appendix 2
NIH PDAC Funded Projects,
Not Related to Framework Initiatives

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
R56EB24320 Surrogate imaging biomarkers for tracking anti-stromal therapy	Doyley, Marvin M University of Rochester
U01CA175315 MicroRNA-1291 in Regulation of Xenobiotic Disposition and Cell Differentiation	Yu, Aiming University of California at Davis
U01CA176303 An integrated computational and functional genomics discovery engine for prelini	Kemp, Christopher J Fred Hutchinson Cancer Research Center
U01CA178960 Targeting pancreatic cancer energy metabolism, tumor growth, and metastasis	Dwinell, Michael B (Contact); Kalyanaraman, Balaraman Medical College of Wisconsin
U01CA187508 A Prospective Investigation of the Oral Microbiome and Pancreatic Cancer	Palmer, Julie R (Contact); Shu, Xiao-Ou Boston University Medical Campus
U01CA198846 UCLA Multifunctional Mesoporous Silica Nanoparticle Platform for Treatment of Pancreas Cancer	Nel, Andre Elias (Contact); Donahue, Timothy R; Meng, Huan ; Zink, Jeffrey I University of California Los Angeles
U01CA198913 Stroma Breaking Theranostic Nanoparticle for Targeted Pancreatic Cancer Therapy	Yang, Lily (Contact); Mao, Hui Emory University
U01CA202241 ECM geometrical and mechanical properties modulate RTK signaling	Groves, Jay T (Contact); Weaver, Valerie Marie University of California Berkeley
U01CA216449 Sensitization to Chemoradiation by Therapeutic Targeting of the DNA Damage Response	Lawrence, Theodore S University of Michigan at Ann Arbor
U01CA216468 Enhancing Chemoradiation Efficacy through Unbiased Drug Discovery Approaches	Lin, Steven Hsesheng (Contact); Krishnan, Sunil University of TX MD Anderson Can Ctr
U01CA217842 Integrative bioinformatics and functional characterization of oncogenic driver aberrations in cancer	Mills, Gordon B (Contact); Scott, Kenneth L University of TX MD Anderson Can Ctr
U24CA209996 Building protected data sharing networks to advance cancer risk assessment and treatment	Foster, Ian University of Chicago
U24CA210986 Center of Excellence for High Throughput Proteogenomic Characterization	Carr, Steven A (Contact); Gillette, Michael A Broad Institute, Inc.

Appendix 2
NIH PDAC Funded Projects,
Not Related to Framework Initiatives

Base Project Number Title (linked to RePORTER abstract)	PI Name(s) All Institution
U54CA163111 Targeting Cancer-Associated Myofibroblasts by DNA Hypomethylation	Tycko, Benjamin Columbia University
U54CA163120 Interplay of Tumor Microenvironment and MUC4 in Pancreatic Cancer	Batra, Surinder K University of Nebraska Medical Center
U54CA210181 Administrative Core	Ferrari, Mauro Methodist Hospital Research Institute
U54CA210190 Core 2: Cell and Whole Animal Genome Engineering	Largaespada, David Andrew University of Minnesota
U54CA217377 Biospecimens and Patient-derived xenografts	Weinstock, David Marc Massachusetts Institute of Technology
U54CA224065 University of Texas PDX Development and Trial Center	Roth, Jack (Contact); Meric-Bernstam, Funda University of TX MD Anderson Can Ctr
U54CA224083 Washington University PDX Development and Trial Center	Govindan, Ramaswamy (Contact); Ding, Li ; Li, Shunqiang Washington University
UH2CA191284 Leveraging GxE interaction to understand pancreatic cancer and altered metabolism	Kraft, Peter Harvard School of Public Health
UM1CA183727 Tennessee Valley Cooperative Human Tissue Network	Washington, Mary Kay Vanderbilt University
UM1HG9426 Center for Functional Validation and Evaluation of ENCODE Enhancer Regions	White, Kevin P University of Chicago
ZIABC11267 Preclinical drug development in pancreatic cancer	Rudloff, Udo National Cancer Institute
ZIABC11463 Development of GEM and GDA models of Pancreatic Adenocarcinoma	Van Dyke, Terry National Cancer Institute
ZIABC11739 Development and Preclinical Application of Pancreatic Adenocarcinoma Models	Sharan, Shyam National Cancer Institute

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

1. [Desmoplasia in pancreatic ductal adenocarcinoma: insight into pathological function and therapeutic potential.](#)
Cannon A, Thompson C, Hall BR, Jain M, Kumar S, Batra SK.
Genes Cancer. 2018 Mar;9(3-4):78-86. doi: 10.18632/genesandcancer.171. Review.
PMID: 30108679
2. [Disruption of C1galt1 Gene Promotes Development and Metastasis of Pancreatic Adenocarcinomas in Mice.](#)
Chugh S, Barkeer S, Rachagani S, Nimmakayala RK, Perumal N, Pothuraju R, Atri P, Mahapatra S, Thapa I, Talmon GA, Smith LM, Yu X, Neelamegham S, Fu J, Xia L, Ponnusamy MP, Batra SK.
Gastroenterology. 2018 Aug 4. pii: S0016-5085(18)34836-4. doi: 10.1053/j.gastro.2018.08.007. [Epub ahead of print]
PMID: 30086262
3. [Genome-Wide Somatic Copy Number Alterations and Mutations in High-Grade Pancreatic Intraepithelial Neoplasia.](#)
Hata T, Suenaga M, Marchionni L, Macgregor-Das A, Yu J, Shindo K, Tamura K, Hruban RH, Goggins M.
Am J Pathol. 2018 Jul;188(7):1723-1733. doi: 10.1016/j.ajpath.2018.03.012. Epub 2018 Apr 22.
PMID: 29684357
4. [Mutations in the pancreatic secretory enzymes CPA1 and CPB1 are associated with pancreatic cancer.](#)
Tamura K, Yu J, Hata T, Suenaga M, Shindo K, Abe T, MacGregor-Das A, Borges M, Wolfgang CL, Weiss MJ, He J, Canto MI, Petersen GM, Gallinger S, Syngal S, Brand RE, Rustgi A, Olson SH, Stoffel E, Cote ML, Zogopoulos G, Potash JB, Goes FS, McCombie RW, Zandi PP, Pirooznia M, Kramer M, Parla J, Eshleman JR, Roberts NJ, Hruban RH, Klein AP, Goggins M.
Proc Natl Acad Sci U S A. 2018 May 1;115(18):4767-4772. doi: 10.1073/pnas.1720588115. Epub 2018 Apr 18.
PMID: 29669919
5. [Prediagnosis Use of Statins Associates With Increased Survival Times of Patients With Pancreatic Cancer.](#)
Hamada T, Khalaf N, Yuan C, Morales-Oyarvide V, Babic A, Nowak JA, Qian ZR, Ng K, Rubinson DA, Kraft P, Giovannucci EL, Stampfer MJ, Fuchs CS, Ogino S, Wolpin BM.
Clin Gastroenterol Hepatol. 2018 Aug;16(8):1300-1306.e3. doi: 10.1016/j.cgh.2018.02.022. Epub 2018 Feb 21.
PMID: 29474971

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

6. [Genome-wide meta-analysis identifies five new susceptibility loci for pancreatic cancer.](#)
Klein AP, Wolpin BM, Risch HA, Stolzenberg-Solomon RZ, Mocci E, Zhang M, Canzian F, Childs EJ, Hoskins JW, Jermusyk A, Zhong J, Chen F, Albanes D, Andreotti G, Arslan AA, Babic A, Bamlet WR, Beane-Freeman L, Berndt SI, Blackford A, Borges M, Borgida A, Bracci PM, Brais L, Brennan P, Brenner H, Bueno-de-Mesquita B, Buring J, Campa D, Capurso G, Cavestro GM, Chaffee KG, Chung CC, Cleary S, Cotterchio M, Dijk F, Duell EJ, Foretova L, Fuchs C, Funel N, Gallinger S, M Gaziano JM, Gazouli M, Giles GG, Giovannucci E, Goggins M, Goodman GE, Goodman PJ, Hackert T, Haiman C, Hartge P, Hasan M, Hegyi P, Helzlsouer KJ, Herman J, Holcatova I, Holly EA, Hoover R, Hung RJ, Jacobs EJ, Jamroziak K, Janout V, Kaaks R, Khaw KT, Klein EA, Kogevinas M, Kooperberg C, Kulke MH, Kupcinskis J, Kurtz RJ, Laheru D, Landi S, Lawlor RT, Lee IM, LeMarchand L, Lu L, Malats N, Mambrini A, Mannisto S, Milne RL, Mohelníková-Duchoňová B, Neale RE, Neoptolemos JP, Oberg AL, Olson SH, Orlow I, Pasquali C, Patel AV, Peters U, Pezilli R, Porta M, Real FX, Rothman N, Scelo G, Sesso HD, Severi G, Shu XO, Silverman D, Smith JP, Soucek P, Sund M, Talar-Wojnarowska R, Tavano F, Thornquist MD, Tobias GS, Van Den Eeden SK, Vashist Y, Visvanathan K, Vodicka P, Wactawski-Wende J, Wang Z, Wentzensen N, White E, Yu H, Yu K, Zeleniuch-Jacquotte A, Zheng W, Kraft P, Li D, Chanock S, Obazee O, Petersen GM, Amundadottir LT.
Nat Commun. 2018 Feb 8;9(1):556. doi: 10.1038/s41467-018-02942-5.
PMID: 29422604
7. [Indocyanine green loaded hyaluronan-derived nanoparticles for fluorescence-enhanced surgical imaging of pancreatic cancer.](#)
Qi B, Crawford AJ, Wojtynek NE, Holmes MB, Soucek JJ, Almeida-Porada G, Ly QP, Cohen SM, Hollingsworth MA, Mohs AM.
Nanomedicine. 2018 Apr;14(3):769-780. doi: 10.1016/j.nano.2017.12.015. Epub 2018 Jan 9.
PMID: 29325740
8. [Thy1-Targeted Microbubbles for Ultrasound Molecular Imaging of Pancreatic Ductal Adenocarcinoma.](#)
Abou-Elkacem L, Wang H, Chowdhury SM, Kimura RH, Bachawal SV, Gambhir SS, Tian L, Willmann JK.
Clin Cancer Res. 2018 Apr 1;24(7):1574-1585. doi: 10.1158/1078-0432.CCR-17-2057. Epub 2018 Jan 4.
PMID: 29301827
9. [Regular Use of Aspirin or Non-Aspirin Nonsteroidal Anti-Inflammatory Drugs Is Not Associated With Risk of Incident Pancreatic Cancer in Two Large Cohort Studies.](#)
Khalaf N, Yuan C, Hamada T, Cao Y, Babic A, Morales-Oyarvide V, Kraft P, Ng K, Giovannucci E, Ogino S, Stampfer M, Cochrane BB, Manson JE, Clish CB, Chan AT, Fuchs CS, Wolpin BM.
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PMID: 29229401

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

10. [Transcriptional Noise and Somatic Mutations in the Aging Pancreas.](#)
Swisa A, Kaestner KH, Dor Y.
Cell Metab. 2017 Dec 5;26(6):809-811. doi: 10.1016/j.cmet.2017.11.009.
PMID: 29211979
11. [Islet cells share promoter hypomethylation independently of expression, but exhibit cell-type-specific methylation in enhancers.](#)
Neiman D, Moss J, Hecht M, Magenheim J, Piyanzin S, Shapiro AMJ, de Koning EJP, Razin A, Cedar H, Shemer R, Dor Y.
Proc Natl Acad Sci U S A. 2017 Dec 19;114(51):13525-13530. doi: 10.1073/pnas.1713736114.
Epub 2017 Dec 4.
PMID: 29203669
12. [IL2RG, identified as overexpressed by RNA-seq profiling of pancreatic intraepithelial neoplasia, mediates pancreatic cancer growth.](#)
Ayars M, O'Sullivan E, Macgregor-Das A, Shindo K, Kim H, Borges M, Yu J, Hruban RH, Goggins M.
Oncotarget. 2017 Aug 3;8(48):83370-83383. doi: 10.18632/oncotarget.19848. eCollection 2017 Oct 13.
PMID: 29137350
13. [Association of Alterations in Main Driver Genes With Outcomes of Patients With Resected Pancreatic Ductal Adenocarcinoma.](#)
Qian ZR, Rubinson DA, Nowak JA, Morales-Oyarvide V, Dunne RF, Kozak MM, Welch MW, Brais LK, Da Silva A, Li T, Li W, Masuda A, Yang J, Shi Y, Gu M, Masugi Y, Bui J, Zellers CL, Yuan C, Babic A, Khalaf N, Aguirre A, Ng K, Miksad RA, Bullock AJ, Chang DT, Tseng JF, Clancy TE, Linehan DC, Findeis-Hosey JJ, Doyle LA, Thorner AR, Ducar M, Wollison B, Laing A, Hahn WC, Meyerson M, Fuchs CS, Ogino S, Hornick JL, Hezel AF, Koong AC, Wolpin BM.
JAMA Oncol. 2018 Mar 8;4(3):e173420. doi: 10.1001/jamaoncol.2017.3420. Epub 2018 Mar 8.
PMID: 29098284
14. [Critical role for arginase 2 in obesity-associated pancreatic cancer.](#)
Zaytouni T, Tsai PY, Hitchcock DS, DuBois CD, Freinkman E, Lin L, Morales-Oyarvide V, Lenehan PJ, Wolpin BM, Mino-Kenudson M, Torres EM, Stylopoulos N, Clish CB, Kalaany NY.
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PMID: 28808255

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

15. [Deleterious Germline Mutations in Patients With Apparently Sporadic Pancreatic Adenocarcinoma.](#)
Shindo K, Yu J, Suenaga M, Fesharakizadeh S, Cho C, Macgregor-Das A, Siddiqui A, Witmer PD, Tamura K, Song TJ, Navarro Almario JA, Brant A, Borges M, Ford M, Barkley T, He J, Weiss MJ, Wolfgang CL, Roberts NJ, Hruban RH, Klein AP, Goggins M.
J Clin Oncol. 2017 Oct 20;35(30):3382-3390. doi: 10.1200/JCO.2017.72.3502. Epub 2017 Aug 2.
PMID: 28767289
16. [Novel nanosensing technologies for exosome detection and profiling.](#)
Im H, Lee K, Weissleder R, Lee H, Castro CM.
Lab Chip. 2017 Aug 22;17(17):2892-2898. doi: 10.1039/c7lc00247e. Review.
PMID: 28745363
17. [Long-term Risk of Pancreatic Malignancy in Patients With Branch Duct Intraductal Papillary Mucinous Neoplasm in a Referral Center.](#)
Pergolini I, Sahara K, Ferrone CR, Morales-Oyarvide V, Wolpin BM, Mucci LA, Brugge WR, Mino-Kenudson M, Patino M, Sahani DV, Warshaw AL, Lillemoe KD, Fernández-Del Castillo C.
Gastroenterology. 2017 Nov;153(5):1284-1294.e1. doi: 10.1053/j.gastro.2017.07.019. Epub 2017 Jul 21.
PMID: 28739282
18. [Detection of early pancreatic ductal adenocarcinoma with thrombospondin-2 and CA19-9 blood markers.](#)
Kim J, Bamlet WR, Oberg AL, Chaffee KG, Donahue G, Cao XJ, Chari S, Garcia BA, Petersen GM, Zaret KS.
Sci Transl Med. 2017 Jul 12;9(398). pii: eaah5583. doi: 10.1126/scitranslmed.aah5583.
PMID: 28701476
19. [Reply to the letter to the editor 'Borderline resectable pancreatic cancer: an evolving concept' by Petrucciani et al.](#)
Gilbert JW, Wolpin B, Clancy T, Wang J, Mamon H, Shinagare AB, Jagannathan J, Rosenthal M.
Ann Oncol. 2017 Sep 1;28(9):2316. doi: 10.1093/annonc/mdx273. No abstract available.
PMID: 28541392
20. [Multiparametric plasma EV profiling facilitates diagnosis of pancreatic malignancy.](#)
Yang KS, Im H, Hong S, Pergolini I, Del Castillo AF, Wang R, Clardy S, Huang CH, Pille C, Ferrone S, Yang R, Castro CM, Lee H, Del Castillo CF, Weissleder R.
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PMID: 28539469

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

21. [Editors' Introduction to the Chronic Pancreatitis and Pancreatic Cysts Special Issue.](#)
Park WG, Habtezion A.
Dig Dis Sci. 2017 Jul;62(7):1681-1682. doi: 10.1007/s10620-017-4613-z. No abstract available.
PMID: 28523572
22. [Borderline resectable pancreatic cancer: conceptual evolution and current approach to image-based classification.](#)
Gilbert JW, Wolpin B, Clancy T, Wang J, Mamon H, Shinagare AB, Jagannathan J, Rosenthal M.
Ann Oncol. 2017 Sep 1;28(9):2067-2076. doi: 10.1093/annonc/mdx180. Review.
PMID: 28407088
23. [Using an endoscopic distal cap to collect pancreatic fluid from the ampulla \(with video\).](#)
Suenaga M, Sadakari Y, Almario JA, Borges M, Lennon AM, Shin EJ, Canto MI, Goggins M.
Gastrointest Endosc. 2017 Dec;86(6):1152-1156.e2. doi: 10.1016/j.gie.2017.02.026. Epub 2017 Mar 1.
PMID: 28259593
24. [Predicting the Grade of Dysplasia of Pancreatic Cystic Neoplasms Using Cyst Fluid DNA Methylation Markers.](#)
Hata T, Dal Molin M, Hong SM, Tamura K, Suenaga M, Yu J, Sedogawa H, Weiss MJ, Wolfgang CL, Lennon AM, Hruban RH, Goggins MG.
Clin Cancer Res. 2017 Jul 15;23(14):3935-3944. doi: 10.1158/1078-0432.CCR-16-2244. Epub 2017 Feb 1.
PMID: 28148542
25. [When, What, and Why of Perioperative Treatment of Potentially Curable Pancreatic Adenocarcinoma.](#)
Perez K, Clancy TE, Mancias JD, Rosenthal MH, Wolpin BM.
J Clin Oncol. 2017 Feb 10;35(5):485-489. doi: 10.1200/JCO.2016.70.2134. Epub 2016 Dec 28.
PMID: 28029328
26. [Leucocyte telomere length, genetic variants at the TERT gene region and risk of pancreatic cancer.](#)
Bao Y, Prescott J, Yuan C, Zhang M, Kraft P, Babic A, Morales-Oyarvide V, Qian ZR, Buring JE, Cochrane BB, Gaziano JM, Giovannucci EL, Manson JE, Ng K, Ogino S, Rohan TE, Sesso HD, Stampfer MJ, Fuchs CS, De Vivo I, Amundadottir LT, Wolpin BM.
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PMID: 27797938

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NCI-PAR 15-289: NCI CDP Pancreatic Cancer Detection Consortium

27. [Pancreatic Cancer Risk Associated with Prediagnostic Plasma Levels of Leptin and Leptin Receptor Genetic Polymorphisms.](#)

Babic A, Bao Y, Qian ZR, Yuan C, Giovannucci EL, Aschard H, Kraft P, Amundadottir LT, Stolzenberg-Solomon R, Morales-Oyarvide V, Ng K, Stampfer MJ, Ogino S, Buring JE, Sesso HD, Gaziano JM, Rifai N, Pollak MN, Anderson ML, Cochrane BB, Luo J, Manson JE, Fuchs CS, Wolpin BM.

Cancer Res. 2016 Dec 15;76(24):7160-7167. Epub 2016 Oct 25.

PMID: 27780823

28. [Three new pancreatic cancer susceptibility signals identified on chromosomes 1q32.1, 5p15.33 and 8q24.21.](#)

Zhang M, Wang Z, Obazee O, Jia J, Childs EJ, Hoskins J, Figlioli G, Mocci E, Collins I, Chung CC, Hautman C, Arslan AA, Beane-Freeman L, Bracci PM, Buring J, Duell EJ, Gallinger S, Giles GG, Goodman GE, Goodman PJ, Kamineni A, Kolonel LN, Kulke MH, Malats N, Olson SH, Sesso HD, Visvanathan K, White E, Zheng W, Abnet CC, Albanes D, Andreotti G, Brais L, Bueno-de-Mesquita HB, Basso D, Berndt SI, Boutron-Ruault MC, Bijlsma MF, Brenner H, Burdette L, Campa D, Caporaso NE, Capurso G, Cavestro GM, Cotterchio M, Costello E, Elena J, Boggi U, Gaziano JM, Gazouli M, Giovannucci EL, Goggins M, Gross M, Haiman CA, Hassan M, Helzlsouer KJ, Hu N, Hunter DJ, Iskierka-Jazdzewska E, Jenab M, Kaaks R, Key TJ, Khaw KT, Klein EA, Kogevinas M, Krogh V, Kupcinskis J, Kurtz RC, Landi MT, Landi S, Le Marchand L, Mambrini A, Mannisto S, Milne RL, Neale RE, Oberg AL, Panico S, Patel AV, Peeters PH, Peters U, Pezzilli R, Porta M, Purdue M, Quiros JR, Riboli E, Rothman N, Scarpa A, Scelo G, Shu XO, Silverman DT, Soucek P, Strobel O, Sund M, Małecká-Panas E, Taylor PR, Tavano F, Travis RC, Thornquist M, Tjønneland A, Tobias GS, Trichopoulos D, Vashist Y, Vodicka P, Wactawski-Wende J, Wentzensen N, Yu H, Yu K, Zeleniuch-Jacquotte A, Kooperberg C, Risch HA, Jacobs EJ, Li D, Fuchs C, Hoover R, Hartge P, Chanock SJ, Petersen GM, Stolzenberg-Solomon RS, Wolpin BM, Kraft P, Klein AP, Canzian F, Amundadottir LT.

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PMID: 27579533

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RFA-DK-14-027 and RFA-DK-14-028: NCI-NIDDK Joint FOAs Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers and Coordination and Data Management Center

1. [Germline Variants and Risk for Pancreatic Cancer: A Systematic Review and Emerging Concepts.](#)
Zhan W, Shelton CA, Greer PJ, Brand RE, Whitcomb DC.
Pancreas. 2018 Sep;47(8):924-936. doi: 10.1097/MPA.0000000000001136.
PMID: 30113427
2. [Model to Determine Risk of Pancreatic Cancer in Patients With New-Onset Diabetes.](#)
Sharma A, Kandlakunta H, Nagpal SJS, Feng Z, Hoos W, Petersen GM, Chari ST.
Gastroenterology. 2018 Sep;155(3):730-739.e3. doi: 10.1053/j.gastro.2018.05.023. Epub 2018 Jun 11.
PMID: 29775599
3. [Fasting Blood Glucose Levels Provide Estimate of Duration and Progression of Pancreatic Cancer Before Diagnosis.](#)
Sharma A, Smyrk TC, Levy MJ, Topazian MA, Chari ST.
Gastroenterology. 2018 Aug;155(2):490-500.e2. doi: 10.1053/j.gastro.2018.04.025. Epub 2018 Apr 30.
PMID: 29723506
4. [The Interface of Pancreatic Cancer With Diabetes, Obesity, and Inflammation: Research Gaps and Opportunities: Summary of a National Institute of Diabetes and Digestive and Kidney Diseases Workshop.](#)
Abbruzzese JL, Andersen DK, Borrebaeck CAK, Chari ST, Costello E, Cruz-Monserrate Z, Eibl G, Engleman EG, Fisher WE, Habtezion A, Kim SK, Korc M, Logsdon C, Lyssiotis CA, Pandol SJ, Rustgi A, Wolfe BM, Zheng L, Powers AC.
Pancreas. 2018 May/Jun;47(5):516-525. doi: 10.1097/MPA.0000000000001037.
PMID: 29702529
5. [Differentiation Therapy Targeting the \$\beta\$ -Catenin/CBP Interaction in Pancreatic Cancer.](#)
Manegold P, Lai KKY, Wu Y, Teo JL, Lenz HJ, Genyk YS, Pandol SJ, Wu K, Lin DP, Chen Y, Nguyen C, Zhao Y, Kahn M.
Cancers (Basel). 2018 Mar 29;10(4). pii: E95. doi: 10.3390/cancers10040095.
PMID: 29596326
6. [Tobacco and alcohol as risk factors for pancreatic cancer.](#)
Korc M, Jeon CY, Edderkaoui M, Pandol SJ, Petrov MS; Consortium for the Study of Chronic Pancreatitis, Diabetes, and Pancreatic Cancer (CPDPC).
Best Pract Res Clin Gastroenterol. 2017 Oct;31(5):529-536. doi: 10.1016/j.bpg.2017.09.001. Epub 2017 Sep 6. Review.
PMID: 29195672

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RFA-DK-14-027 and RFA-DK-14-028: NCI-NIDDK Joint FOAs Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers and Coordination and Data Management Center

7. [Viscoelastic properties of human pancreatic tumors and in vitro constructs to mimic mechanical properties.](#)
Rubiano A, Delitto D, Han S, Gerber M, Galitz C, Trevino J, Thomas RM, Hughes SJ, Simmons CS. Acta Biomater. 2018 Feb;67:331-340. doi: 10.1016/j.actbio.2017.11.037. Epub 2017 Dec 2. PMID: 29191507
8. [Uniting Epidemiology and Experimental Disease Models for Alcohol-Related Pancreatic Disease.](#)
Setiawan VW, Monroe K, Lugea A, Yadav D, Pandol S. Alcohol Res. 2017;38(2):173-182. Review. PMID: 28988572
9. [EUS and related technologies for the diagnosis and treatment of pancreatic disease: research gaps and opportunities-Summary of a National Institute of Diabetes and Digestive and Kidney Diseases workshop.](#)
Lee LS, Andersen DK, Ashida R, Brugge WR, Canto MI, Chang KJ, Chari ST, DeWitt J, Hwang JH, Khashab MA, Kim K, Levy MJ, McGrath K, Park WG, Singhi A, Stevens T, Thompson CC, Topazian MD, Wallace MB, Wani S, Waxman I, Yadav D, Singh VK. Gastrointest Endosc. 2017 Nov;86(5):768-778. doi: 10.1016/j.gie.2017.08.006. Epub 2017 Sep 20. Review. PMID: 28941651
10. [Endoscopic Ultrasound and Related Technologies for the Diagnosis and Treatment of Pancreatic Disease - Research Gaps and Opportunities: Summary of a National Institute of Diabetes and Digestive and Kidney Diseases Workshop.](#)
Lee LS, Andersen DK, Ashida R, Brugge WR, Canto MI, Chang KJ, Chari ST, DeWitt J, Hwang JH, Khashab MA, Kim K, Levy MJ, McGrath K, Park WG, Singhi A, Stevens T, Thompson CC, Topazian MD, Wallace MB, Wani S, Waxman I, Yadav D, Singh VK. Pancreas. 2017 Nov/Dec;46(10):1242-1250. doi: 10.1097/MPA.0000000000000936. PMID: 28926412
11. [Diabetes Mellitus and Obesity as Risk Factors for Pancreatic Cancer.](#)
Eibl G, Cruz-Monserrate Z, Korc M, Petrov MS, Goodarzi MO, Fisher WE, Habtezion A, Lugea A, Pandol SJ, Hart PA, Andersen DK; Consortium for the Study of Chronic Pancreatitis, Diabetes, and Pancreatic Cancer. J Acad Nutr Diet. 2018 Apr;118(4):555-567. doi: 10.1016/j.jand.2017.07.005. Epub 2017 Sep 12. PMID: 28919082

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RFA-DK-14-027 and RFA-DK-14-028: NCI-NIDDK Joint FOAs Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers and Coordination and Data Management Center

12. [The Role of Real Time Endoscopic Ultrasound Guided Elastography for Targeting EUS-FNA of Suspicious Pancreatic Masses: A Review of the Literature and A Single Center Experience.](#)
Jafri M, Sachdev AH, Khanna L, Gress FG.
JOP. 2016 Sep;17(5):516-524.
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RFA-DK-14-027 and RFA-DK-14-028: NCI-NIDDK Joint FOAs Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers and Coordination and Data Management Center

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT00609336	Combination Chemotherapy, Intensity-Modulated Radiation Therapy, and Surgery in Treating Patients With Localized Pancreatic Cancer That Can Be Removed By Surgery	Fred Hutch/University of Washington Cancer Consortium	II	TREATMENT	Complete
NCT00727441	Vaccine Therapy with or without Cyclophosphamide in Treating Patients with Newly Diagnosed Pancreatic Cancer That Can Be Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	NA	TREATMENT	Closed to Accrual and Intervention
NCT00733746	Gemcitabine Hydrochloride and Erlotinib Hydrochloride before and after Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Alliance for Clinical Trials in Oncology	II	TREATMENT	Closed to Accrual and Intervention
NCT00769483	Gemcitabine Hydrochloride, Erlotinib Hydrochloride, and Dalotuzumab in Treating Patients with Stage IV Pancreatic Cancer	M D Anderson Cancer Center	I_II	TREATMENT	Closed to Accrual
NCT00806611	Celiac Plexus Neurolysis in Reducing Pain in Patients with Pancreatic or Periampullary Cancer during Surgery	Thomas Jefferson University Hospital	III	SUPPORTIVE_CARE	Complete
NCT00816179	Diagnostic Transgastric Endoscopic Peritoneoscopy in Measuring Tumors in Patients With Pancreatic Cancer	Ohio State University Comprehensive Cancer Center	NA	DIAGNOSTIC	Administratively Complete
NCT00882310	Gemcitabine Hydrochloride, Docetaxel, and Capecitabine in Treating Patients With Pancreatic Cancer	Columbia University/Herbert Irving Cancer Center	II	TREATMENT	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
	Previously Treated With Surgery				
NCT00968604	Gene Therapy in Treating Patients with Pancreatic Cancer That Is Metastatic or Cannot Be Removed by Surgery	M D Anderson Cancer Center	I	TREATMENT	Withdrawn
NCT00985777	Vitamin E in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Moffitt Cancer Center	I	TREATMENT	Complete
NCT01013649	Gemcitabine Hydrochloride with or without Erlotinib Hydrochloride Followed by the Same Chemotherapy Regimen with or without Radiation Therapy and Capecitabine or Fluorouracil in Treating Patients with Pancreatic Cancer That Has Been Removed by Surgery	NRG Oncology	III	TREATMENT	Closed to Accrual
NCT01065870	Capecitabine, Gemcitabine Hydrochloride, Docetaxel, and Radiation Therapy in Treating Patients With Stage II-III Pancreatic Cancer	Columbia University/Herbert Irving Cancer Center	II	TREATMENT	Closed to Accrual
NCT01088789	Vaccine Therapy and Cyclophosphamide in Treating Patients with Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01088815	Gemcitabine Hydrochloride, Nab-paclitaxel, and Vismodegib in Treating Patients with Previously Untreated Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Closed to Accrual
NCT01146054	Gemcitabine Hydrochloride and Stereotactic Radiation Therapy in Treating Patients with Pancreatic Cancer That Cannot Be Removed By Surgery	Stanford Cancer Institute Palo Alto	II	TREATMENT	Closed to Accrual
NCT01155882	Whipple at the Splenic Artery (WATSA)	Siteman Cancer Center at Washington University	NA	TREATMENT	Active
NCT01188109	Gemcitabine Hydrochloride and Cisplatin in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Emory University Hospital/Winship Cancer Institute	II	TREATMENT	Complete
NCT01233505	Veliparib, Oxaliplatin, and Capecitabine in Treating Patients With Advanced Solid Tumors	University of Wisconsin Hospital and Clinics	I	TREATMENT	Administratively Complete
NCT01276613	Gemcitabine Hydrochloride During Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	M D Anderson Cancer Center	NA	TREATMENT	Closed to Accrual
NCT01280058	Carboplatin and Paclitaxel with or without Viral Therapy in Treating Patients with Recurrent or Metastatic Pancreatic Cancer	Ohio State University Comprehensive Cancer Center	II	TREATMENT	Complete
NCT01294358	Gemcitabine Hydrochloride in Treating Patients With Locally Advanced Pancreatic Cancer	NCI - Center for Cancer Research	I	TREATMENT	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01296763	Irinotecan Hydrochloride and Cisplatin With or Without Mitomycin C and Olaparib in Treating Patients With Pancreatic Cancer That is Metastatic or Cannot be Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	I_II	TREATMENT	Complete
NCT01342354	Stereotactic Body Radiation Therapy in Treating Patients with Pancreatic or Ampulla of Vater Cancer That Cannot Be Removed by Surgery	University of Chicago Comprehensive Cancer Center	I_II	TREATMENT	Closed to Accrual
NCT01357525	Stereotactic Radiosurgery in Treating Patients with Pancreatic Cancer That Has Been Removed by Surgery	UPMC-Shadyside Hospital	II	TREATMENT	Active
NCT01360593	Gemcitabine Hydrochloride and Capecitabine Followed by Stereotactic Radiosurgery in Treating Patients with Locally Advanced Pancreatic Cancer	UPMC-Shadyside Hospital	II	TREATMENT	Closed to Accrual
NCT01362790	Pentostatin, Cyclophosphamide, and SS1(dsFv)-PE38 Immunotoxin in Treating Patients with Mesothelioma, Lung Cancer, or Pancreatic Cancer	NCI - Center for Cancer Research	II	TREATMENT	Administratively Complete
NCT01365169	Post-op Wellness Program for Pancreatic Cancer Patients That Uses Patient feedback and real-time provider monitoring	M D Anderson Cancer Center	NA	HEALTH_SERVICES_RESEARCH	Active
NCT01413022	FOLFIRINOX plus PF-04136309 in Patients with Borderline Resectable and Locally Advanced Pancreatic Adenocarcinoma	Siteman Cancer Center at Washington University	I	TREATMENT	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01413451	Amatuximab in Treating Patients with Advanced Pancreatic, Mesothelioma, Ovarian, or Non-Small Cell Lung Cancer	NCI - Center for Cancer Research	0	BASIC_SCIENCE	Active
NCT01419483	Ketogenic Diet in Treating Patients with Stage II-III Pancreatic Cancer Undergoing Chemoradiation Therapy	University of Iowa/Holden Comprehensive Cancer Center	I	TREATMENT	Complete
NCT01420874	Therapeutic Autologous Lymphocytes in Treating Patients with Metastatic Colon, Rectal, or Pancreatic Cancer	Wayne State University/Karmanos Cancer Institute	I	TREATMENT	Closed to Accrual
NCT01431794	Gemcitabine Hydrochloride, Paclitaxel Albumin-Stabilized Nanoparticle Formulation, and Erismodegib before Surgery in Treating Patients with Borderline Resectable Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	I_II	TREATMENT	Closed to Accrual
NCT01446458	Combination Chemotherapy and Stereotactic Body Radiation Therapy in Treating Patients With Pancreatic Cancer	Emory University Hospital/Winship Cancer Institute	I	TREATMENT	Complete
NCT01449864	Proton Beam Radiation Therapy and Fluorouracil or Capecitabine in Treating Patients With Upper Gastrointestinal Cancer	University of Pennsylvania/Abramson Cancer Center	NA	TREATMENT	Closed to Accrual
NCT01459614	Capecitabine, Gemcitabine Hydrochloride, Docetaxel, and Cisplatin in Treating Patients With Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Closed to Accrual and Intervention

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01473940	Ipilimumab and Gemcitabine Hydrochloride in Treating Patients with Stage III-IV or Recurrent Pancreatic Cancer that Cannot be Removed by Surgery	Northwestern University	I	TREATMENT	Closed to Accrual
NCT01485744	Erismodegib, Leucovorin Calcium, Fluorouracil, Irinotecan Hydrochloride, and Oxaliplatin Hydrochloride in Treating Patients with Previously Untreated, Locally Advanced, or Metastatic Pancreatic Cancer	Dana-Farber Harvard Cancer Center	I	TREATMENT	Closed to Accrual
NCT01489865	Veliparib and Combination Chemotherapy in Treating Patients with Metastatic Pancreatic Cancer	MedStar Georgetown University Hospital	I_II	TREATMENT	Active
NCT01494155	Proton or Photon Beam Radiation Therapy, Capecitabine, and Hydroxychloroquine in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Dana-Farber Harvard Cancer Center	II	TREATMENT	Closed to Accrual
NCT01497392	Dovitinib Lactate, Gemcitabine Hydrochloride, and Capecitabine in Treating Patients with Advanced or Metastatic Solid Tumors, Pancreatic Cancer, or Biliary Cancer	Roswell Park Cancer Institute	I	TREATMENT	Complete
NCT01506973	A Phase I/II/Pharmacodynamic Study of Hydroxychloroquine in Combination With Gemcitabine/Abraxane to Inhibit Autophagy in Pancreatic Cancer	University of Pennsylvania/Abramson Cancer Center	I_II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01515046	Gemcitabine Hydrochloride and Ascorbic Acid in Treating Patients With Metastatic Pancreatic Cancer	University of Iowa/Holden Comprehensive Cancer Center	II	TREATMENT	Complete
NCT01523457	Combination Chemotherapy in Treating Patients With Advanced or Metastatic Pancreatic Cancer	Yale University	II	TREATMENT	Closed to Accrual
NCT01537107	Sunitinib and Vismodegib in Treatment of Patients with Solid Tumors or Pancreatic Cancer That is Metastatic or Cannot Be Removed by Surgery	Mayo Clinic	I	TREATMENT	Temporarily Closed to Accrual
NCT01555489	Ascorbic Acid, Gemcitabine Hydrochloride, and Erlotinib Hydrochloride in Treating Patients With Metastatic Pancreatic Cancer	Thomas Jefferson University Hospital	II	TREATMENT	Administratively Complete
NCT01560949	Combination Chemotherapy Followed by Radiation Therapy and Surgery in Treating Patients with High-Risk Pancreatic Cancer That Can Be Removed by Surgery	M D Anderson Cancer Center	II	TREATMENT	Closed to Accrual
NCT01573780	Gemcitabine Hydrochloride and Smac Mimetic TL32711 in Treating Patients With Advanced Solid Tumors	Roswell Park Cancer Institute	I	TREATMENT	Administratively Complete
NCT01585805	Gemcitabine Hydrochloride and Cisplatin with or without Veliparib or Veliparib Alone in Treating Patients with Locally Advanced or Metastatic Pancreatic Cancer	Memorial Sloan Kettering Cancer Center	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01591733	Combination Chemotherapy and Radiation Therapy before Surgery in Treating Patients with Pancreatic Cancer That May Be Removed by Surgery	Dana-Farber Harvard Cancer Center	II	TREATMENT	Closed to Accrual
NCT01595321	Vaccine Therapy, Cyclophosphamide, Stereotactic Body Radiation Therapy, and Combination Chemotherapy in Treating Patients with Pancreatic Cancer That Has Been Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	NA	TREATMENT	Closed to Accrual
NCT01643499	Combination Chemotherapy in Treating Patients with Previously Untreated Locally Advanced or Metastatic Gastrointestinal Malignancies	University of Chicago Comprehensive Cancer Center	I	TREATMENT	Closed to Accrual
NCT01658943	Selumetinib and Akt Inhibitor MK2206 or mFOLFOX Therapy Comprising Oxaliplatin and Fluorouracil in Treating Patients with Metastatic Pancreatic Cancer Previously Treated with Chemotherapy	SWOG	II	TREATMENT	Complete
NCT01660971	Gemcitabine Hydrochloride, Dasatinib, and Erlotinib Hydrochloride in Treating Patients with Pancreatic Cancer That Is Metastatic or Cannot Be Removed by Surgery	Vanderbilt University/Ingram Cancer Center	I	TREATMENT	Closed to Accrual and Intervention
NCT01661114	Gemcitabine Hydrochloride, Fluorouracil, and Cisplatin in Treating Patients With Advanced Pancreatic or Biliary Cancer	University of Michigan Comprehensive Cancer Center	II	TREATMENT	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01664169	Biomarkers in Plasma Specimens From Patients Treated on Study CALGB-80303	Cancer and Leukemia Group B	NA	OTHER	Approved
NCT01666730	Metformin Hydrochloride, Leucovorin Calcium, Fluorouracil, and Oxaliplatin in Treating Patients with Metastatic Pancreatic Cancer	Case Comprehensive Cancer Center	II	TREATMENT	Closed to Accrual
NCT01677962	Vaccine Therapy and Poly ICLC in Treating Patients with Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery	Medical University of South Carolina	I	TREATMENT	Closed to Accrual and Intervention
NCT01677988	Combination Chemotherapy Followed by Capecitabine and Radiation Therapy before Surgery in Treating Patients with Localized Pancreatic Cancer	Medical University of South Carolina	II	TREATMENT	Administratively Complete
NCT01688336	Combination Chemotherapy in Treating Patients With Locally Advanced Pancreatic Cancer	UNC Lineberger Comprehensive Cancer Center	II	TREATMENT	Administratively Complete
NCT01739439	Chemoradiation and Radiosurgery Boost in Treating Patients with Locally Advanced Pancreatic Cancer That May or May Not Be Removed by Surgery	Fox Chase Cancer Center	I	TREATMENT	Closed to Accrual and Intervention
NCT01741597	Dynamic Contrast Enhanced MRI in Patients With Advanced Breast or Pancreatic Cancer With Metastases to the Liver or Lung	City of Hope Comprehensive Cancer Center	I	DIAGNOSTIC	Withdrawn

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01754623	Validation of Gene Signature in Measuring Response in Patients with Pancreatic Cancer That Can Be Removed by Surgery Undergoing Chemotherapy and Radiation Therapy	Moffitt Cancer Center	II	BASIC_SCIENCE	Administratively Complete
NCT01770132	Ultrasound-Guided Photodynamic Therapy with Porfimer Sodium, Gemcitabine Hydrochloride, and Nab-Paclitaxel in Treating Patients with Locally Advanced Pancreatic Cancer	Indiana University/Melvin and Bren Simon Cancer Center	I	TREATMENT	Closed to Accrual
NCT01781728	Stereotactic Body Radiation Therapy in Treating Patients with Pancreatic or Periapillary Cancer That Cannot Be Removed by Surgery or Is Recurrent	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Closed to Accrual
NCT01783054	Gemcitabine Hydrochloride and Paclitaxel Albumin-Stabilized Nanoparticle Formulation before Surgery in Treating Patients with Localized Pancreatic Cancer	Medical University of South Carolina	NA	TREATMENT	Administratively Complete
NCT01783171	Dinaciclib and Akt Inhibitor MK2206 in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	I	TREATMENT	Complete
NCT01821612	Combination Chemotherapy and Radiation Therapy before Surgery Followed by Gemcitabine Hydrochloride in Treating Patients with Pancreatic Cancer	Alliance for Clinical Trials in Oncology	NA	TREATMENT	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01821729	Combination Chemotherapy and Losartan Potassium Followed by Radiation Therapy and Capecitabine in Treating Patients with Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery	Dana-Farber Harvard Cancer Center	II	TREATMENT	Closed to Accrual
NCT01825603	ADH-1, Gemcitabine Hydrochloride and Cisplatin in Treating Patients with Locally Advanced or Metastatic Pancreatic or Biliary Tract Cancer That Cannot Be Removed by Surgery	University of Nebraska Medical Center	I	TREATMENT	Closed to Accrual
NCT01835041	6,8-Bis(benzylthio)octanoic Acid and Combination Chemotherapy in Treating Patients with Metastatic Pancreatic Cancer	Comprehensive Cancer Center of Wake Forest University	I	TREATMENT	Closed to Accrual
NCT01838317	Pioglitazone Hydrochloride in Treating Patients with Pancreatic Cancer	UT Southwestern/Simmons Cancer Center-Dallas	II	TREATMENT	Active
NCT01839799	Comparison of Two Combination Chemotherapy Regimens before and after Chemoradiation Therapy in Treating Patients with Stage IB-III Pancreatic Cancer Removed by Surgery	University of Pennsylvania/Abramson Cancer Center	II	TREATMENT	Closed to Accrual
NCT01839981	6,8-bis(Benzylthio)octanoic Acid in Treating Patients with Locally Advanced or Metastatic Pancreatic Cancer	Comprehensive Cancer Center of Wake Forest University	NA	TREATMENT	Closed to Accrual

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01845805	Azacitidine in Treating Patients with Pancreatic Cancer That Has Been Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Active
NCT01852890	Gemcitabine Hydrochloride, Ascorbic Acid, and Radiation Therapy in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	University of Iowa/Holden Comprehensive Cancer Center	I	TREATMENT	Closed to Accrual
NCT01888978	Targeted Therapy in Treating Patients With Metastatic Pancreatic Cancer	MedStar Georgetown University Hospital	NA	TREATMENT	Complete
NCT01893294	Gemcitabine Hydrochloride Therapy in Treating Patients With Locally Advanced Pancreatic Cancer	Mayo Clinic	I	TREATMENT	Administratively Complete
NCT01896869	Combination Chemotherapy Followed by Ipilimumab and Vaccine Therapy in Treating Patients with Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Closed to Accrual and Intervention
NCT01897415	Laboratory Treated T Cells in Treating Patients With Chemotherapy Refractory Metastatic Pancreatic Cancer	University of Pennsylvania/Abramson Cancer Center	I	TREATMENT	Closed to Accrual and Intervention
NCT01897454	Combination Chemotherapy, Gemcitabine Hydrochloride, and Radiation Therapy before Surgery in Treating Patients with Borderline Resectable Pancreatic Cancer	Montefiore Medical Center-Weiler Hospital	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01911416	Erismodegib Before Surgery Followed By Erismodegib and Gemcitabine Hydrochloride in Treating Patients With Pancreatic Cancer That Can Be Removed By Surgery	Huntsman Cancer Institute/University of Utah	I	TREATMENT	Administratively Complete
NCT01921751	High or Standard Intensity Radiation Therapy after Gemcitabine Hydrochloride and Nab-paclitaxel in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	NRG Oncology	II	TREATMENT	Closed to Accrual and Intervention
NCT01924260	Alisertib and Gemcitabine Hydrochloride in Treating Patients With Solid Tumors or Pancreatic Cancer That is Metastatic or Cannot Be Removed By Surgery	University of California Davis Comprehensive Cancer Center	I	TREATMENT	Closed to Accrual
NCT01926197	Combination Chemotherapy with or without Stereotactic Body Radiation Therapy in Treating Patients with Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery	Stanford Cancer Institute Palo Alto	III	TREATMENT	Active
NCT01938716	Gemcitabine Hydrochloride Uptake during Surgery in Patients with Pancreatic Cancer after Preoperative Chemoradiation Therapy	M D Anderson Cancer Center	NA	BASIC_SCIENCE	Closed to Accrual
NCT01950572	Sample Collection and Natural History Study of Patients with Malignant Mesothelioma or Other Mesothelin-Expressing Cancers	NCI - Center for Cancer Research	NA	BASIC_SCIENCE	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT01959139	S1313, Combination Chemotherapy with or without PEGPH20 in Treating Patients with Newly Diagnosed Metastatic Pancreatic Cancer	SWOG	I_II	TREATMENT	Closed to Accrual
NCT01959672	Combination Chemotherapy with or without Oregovomab Followed by Stereotactic Body Radiation Therapy and Nelfinavir Mesylate in Treating Patients with Locally Advanced Pancreatic Cancer	University of Nebraska Medical Center	II	TREATMENT	Closed to Accrual
NCT01962909	PTP-01 in Diagnosing Pancreatic Cancer in Patients With Pancreatic Ductal Cancer That Can Be Removed by Surgery	University of Virginia Cancer Center	O	DIAGNOSTIC	Complete
NCT01978184	Gemcitabine Hydrochloride and Paclitaxel Albumin-Stabilized Nanoparticle Formulation With or Without Hydroxychloroquine Before Surgery in Treating Patients With Pancreatic Cancer	University of Pittsburgh Cancer Institute (UPCI)	II	TREATMENT	Active
NCT01992705	Combination Chemotherapy and Radiation Therapy Before Surgery in Treating Patients With Pancreatic Cancer	University of Maryland/Greenebaum Cancer Center	NA	TREATMENT	Active
NCT02000089	Biomarker Analysis in Improving Screening in Patients with or at High Risk of Developing Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	NA	SCREENING	Active
NCT02028377	PET/MRI in Identifying Surgical Candidates with Pancreatic Cancer	Siteman Cancer Center at Washington University	NA	DIAGNOSTIC	Closed to Accrual

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02030860	Paclitaxel Albumin-Stabilized Nanoparticle Formulation, Gemcitabine Hydrochloride, and Paricalcitol Before and After Surgery in Treating Patients With Pancreatic Cancer That Can Be Removed by Surgery	University of Pennsylvania/Abramson Cancer Center	NA	TREATMENT	Closed to Accrual
NCT02037230	WEE1 Inhibitor AZD1775, Gemcitabine Hydrochloride, and Radiation Therapy in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	University of Michigan Comprehensive Cancer Center	I_II	TREATMENT	Active
NCT02047474	Combination Chemotherapy before and after Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Yale University	II	TREATMENT	Active
NCT02048384	Metformin Hydrochloride with or without Sirolimus after Induction Chemotherapy Therapy in Treating Patients with Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	I	TREATMENT	Closed to Accrual
NCT02048943	Dovitinib Lactate, Gemcitabine Hydrochloride, and Paclitaxel Albumin-Stabilized Nanoparticle Formulation in Treating Patients With Advanced Solid Tumors or Pancreatic Cancer	Roswell Park Cancer Institute	I	TREATMENT	Withdrawn
NCT02070705	DCE MRI in Patients with Pancreatic Cancer	OHSU Knight Cancer Institute	NA	DIAGNOSTIC	Active
NCT02080650	Circulating Tumor Cells Analysis in Tissue and Blood Samples from Patients with Cancer	Duke University Medical Center	NA	OTHER	Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02138383	Enzalutamide in Combination with Gemcitabine and Nab-Paclitaxel for the Treatment of Advanced Pancreatic Cancer	Moffitt Cancer Center	I	TREATMENT	Closed to Accrual and Intervention
NCT02153450	Stereotactic Body Radiation Therapy and Metformin Hydrochloride in Treating Patients with Borderline-Resectable or Locally-Advanced Pancreatic Cancer	Case Comprehensive Cancer Center	NA	TREATMENT	Active
NCT02155088	Alpelisib, Gemcitabine Hydrochloride, and Nab-paclitaxel in Treating Patients with Locally Advanced or Metastatic Pancreatic Cancer	Moffitt Cancer Center	I	TREATMENT	Closed to Accrual and Intervention
NCT02159716	Genetically Modified T Cells with or without Cyclophosphamide in Treating Patients with Recurrent Mesothelin-Expressing Cancers That Cannot Be Removed by Surgery	University of Pennsylvania/Abramson Cancer Center	I	TREATMENT	Closed to Accrual
NCT02178436	Selinexor, Gemcitabine Hydrochloride, and Paclitaxel Albumin-Stabilized Nanoparticle Formulation in Treating Patients with Metastatic Pancreatic Cancer	Wayne State University/Karmanos Cancer Institute	I_II	TREATMENT	Closed to Accrual
NCT02178709	Leucovorin Calcium, Irinotecan Hydrochloride, Fluorouracil, and Oxaliplatin Before Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed By Surgery	Indiana University/Melvin and Bren Simon Cancer Center	II	TREATMENT	Closed to Accrual

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02194829	Paclitaxel Albumin-Stabilized Nanoparticle Formulation and Gemcitabine Hydrochloride with or without WEE1 Inhibitor MK-1775 in Treating Patients with Previously Untreated Pancreatic Cancer That Is Metastatic or Cannot Be Removed by Surgery	ECOG-ACRIN Cancer Research Group	I_II	TREATMENT	Closed to Accrual and Intervention
NCT02195232	Isoquercetin in Preventing Venous Thromboembolic Events in Patients with Metastatic or Unresectable Pancreatic Cancer, Stage III-IV Non-small Cell Lung Cancer, or Stage IV Colorectal Cancer	Dana-Farber Harvard Cancer Center	II_III	PREVENTION	Active
NCT02207465	Radiation Therapy and Paclitaxel Albumin-Stabilized Nanoparticle Formulation in Treating Patients with Pancreatic Cancer	University of Pennsylvania/Abramson Cancer Center	I	TREATMENT	Active
NCT02241187	PEGPH20 and Cetuximab before Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	Memorial Sloan Kettering Cancer Center	NA	BASIC_SCIENCE	Active
NCT02241551	Gemcitabine Hydrochloride and Nab-Paclitaxel or mFOLFIRINOX with Stereotactic Body Radiation Therapy before Surgery in Treating Patients with Pancreatic Cancer	University of Pittsburgh Cancer Institute (UPCI)	II	TREATMENT	Complete
NCT02242409	Gemcitabine Hydrochloride and Nab-Paclitaxel as Second Line Therapy in Treating Patients with Metastatic Pancreatic Cancer	MedStar Georgetown University Hospital	II	TREATMENT	Administratively Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02243007	Combination Chemotherapy or Gemcitabine Hydrochloride and Paclitaxel Albumin-Stabilized Nanoparticle Formulation Followed by Radiation Therapy and Capecitabine in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery or Borderline Resect	Dana-Farber Harvard Cancer Center	II	TREATMENT	Complete
NCT02243371	Vaccine Therapy and Cyclophosphamide with or without Nivolumab in Treating Patients with Previously Treated Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Closed to Accrual
NCT02283372	Nab-Paclitaxel plus Gemcitabine Hydrochloride with Concurrent MR-Guided IMRT in Patients with Locally Advanced and Borderline Resectable Pancreatic Cancer	Siteman Cancer Center at Washington University	I	TREATMENT	Active
NCT02295956	Preoperative Rehabilitation Program in Reducing Frailty in Patients Undergoing Chemotherapy and Surgery for Pancreatic Cancer	M D Anderson Cancer Center	NA	SUPPORTIVE_CARE	Closed to Accrual
NCT02305186	Capecitabine and Radiation Therapy with or without Pembrolizumab in Treating Participants with Resectable or Borderline Resectable Pancreatic Cancer	University of Virginia Cancer Center	I_II	TREATMENT	Active
NCT02311361	Tremelimumab with or without Durvalumab and Radiation Therapy in Treating Patients with Pancreatic Cancer That	NCI - Center for Cancer Research	I	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
	Cannot Be Removed by Surgery				
NCT02318095	Gemcitabine Hydrochloride, Nab-paclitaxel, and Hypofractionated, Image-Guided, Intensity Modulated Radiation Therapy before Surgery in Treating Patients with Newly Diagnosed Pancreatic Cancer That Can Be Removed by Surgery	Duke University Medical Center	II	TREATMENT	Active
NCT02324543	Gemcitabine Hydrochloride, Docetaxel, Capecitabine, Cisplatin, and Irinotecan Hydrochloride in Treating Patients with Metastatic Pancreatic Cancer	Johns Hopkins University/Sidney Kimmel Cancer Center	I_II	TREATMENT	Closed to Accrual
NCT02333188	Genetic Analysis-Guided Dosing of FOLFIRABAX in Treating Patients with Advanced Gastrointestinal Cancer	University of Chicago Comprehensive Cancer Center	I_II	TREATMENT	Closed to Accrual
NCT02336087	Gemcitabine Hydrochloride, Nab-paclitaxel, Metformin Hydrochloride, and a Standardized Dietary Supplement in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	City of Hope Comprehensive Cancer Center	I	TREATMENT	Active
NCT02345460	Combination Chemotherapy in Treating Patients with Pancreatic Cancer before Undergoing Surgery	Case Comprehensive Cancer Center	II	TREATMENT	Administratively Complete

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02349867	Sorafenib Tosylate, Vorinostat, Gemcitabine Hydrochloride, and Radiation Therapy in Treating Patients with Pancreatic Cancer	Virginia Commonwealth University/Massey Cancer Center	I	TREATMENT	Active
NCT02352831	Tosedostat and Capecitabine in Treating Patients with Pancreatic Cancer That Is Advanced, Metastatic, or Cannot Be Removed by Surgery	Siteman Cancer Center at Washington University	I_II	TREATMENT	Closed to Accrual
NCT02383433	Regorafenib and Gemcitabine Hydrochloride as Second-Line Therapy in Treating Patients with Metastatic Pancreatic Cancer	Case Comprehensive Cancer Center	II	TREATMENT	Closed to Accrual
NCT02393703	Exosome Biomarkers in Blood, Pancreatic Fluid, and Tissue Samples from Patients with Pancreatic Cancer Undergoing Surgery	Memorial Sloan Kettering Cancer Center	NA	OTHER	Active
NCT02394535	Nab-Paclitaxel, Capecitabine, and Radiation Therapy following Induction Chemotherapy in Treating Patients with Locally Advanced Pancreatic Cancer	M D Anderson Cancer Center	I	TREATMENT	Active
NCT02414100	Patient Derived Cancer Cell Lines in Identifying Molecular Changes in Patients with Previously Untreated Pancreatic Cancer Receiving Gemcitabine Hydrochloride-Based Chemotherapy	Thomas Jefferson University Hospital	NA	OTHER	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02427841	Nab-paclitaxel and Gemcitabine Hydrochloride Followed by Radiation Therapy before Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	OHSU Knight Cancer Institute	II	TREATMENT	Active
NCT02442323	Home-Based Walking Program in Improving Quality of Life in Patients with Locally Advanced or Metastatic Pancreatic Cancer	Fox Chase Cancer Center	NA	SUPPORTIVE_CARE	Active
NCT02451982	Vaccine Therapy with or without Nivolumab or Urelumab before and after Surgery in Treating Patients with Stage I-IB Pancreatic Cancer That Can Be Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	I_II	TREATMENT	Active
NCT02454140	Stereotactic Body Radiation Therapy in Treating Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	University of California San Diego	I	TREATMENT	Active
NCT02471170	Circulating Tumor Material in Blood Samples from Patients with Pancreatic Diseases	University of Pennsylvania/Abramson Cancer Center	NA	OTHER	Active
NCT02487277	PEGPH20, Gemcitabine Hydrochloride, and Nab-Paclitaxel in Treating Patients with Borderline Resectable Pancreatic Cancer	UCSF Medical Center-Mount Zion	II	TREATMENT	Closed to Accrual
NCT02495896	Recombinant EphB4-HSA Fusion Protein with Standard Chemotherapy Regimens in Treating Patients with Advanced or Metastatic Solid Tumors	USC / Norris Comprehensive Cancer Center	I	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02498613	A Phase 2 Study of Cediranib in Combination with Olaparib in Advanced Solid Tumors	Yale University Cancer Center LAO	II	TREATMENT	Active
NCT02514031	Beta-lapachone Prodrug ARQ 761 and Combination Chemotherapy in Treating Patients with Pancreatic Cancer That Is Metastatic, Recurrent, or Cannot Be Removed by Surgery	UT Southwestern/Simmons Cancer Center-Dallas	I	TREATMENT	Active
NCT02534675	Personalized Cancer Therapy in Treating Participants with Metastatic or Unresectable Cancers	University of California San Diego	NA	TREATMENT	Active
NCT02546531	Defactinib, Pembrolizumab, and Gemcitabine Hydrochloride in Treating Patients with Advanced Pancreatic Cancer or Solid Tumors	Siteman Cancer Center at Washington University	I	TREATMENT	Active
NCT02562716	S1505: Combination Chemotherapy or Gemcitabine Hydrochloride and Paclitaxel Albumin-Stabilized Nanoparticle Formulation before Surgery in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	SWOG	II	TREATMENT	Closed to Accrual
NCT02562898	Ibrutinib, Gemcitabine Hydrochloride, and Nab-paclitaxel in Treating Patients with Metastatic Pancreatic Cancer	UCSF Medical Center-Mount Zion	I	TREATMENT	Closed to Accrual

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02567396	Talazoparib in Treating Patients with Advanced or Metastatic Solid Tumors That Cannot Be Removed by Surgery and Liver or Kidney Dysfunction	University Health Network Princess Margaret Cancer Center LAO	I	TREATMENT	Withdrawn
NCT02569723	Carbon C 14 Oxaliplatin Microdosing Assay in Predicting Exposure and Sensitivity to Oxaliplatin-Based Chemotherapy in Patients with Colon, Rectal, Pancreatic, Gastroesophageal, Appendix, or Small Intestine Cancer	University of California Davis Comprehensive Cancer Center	NA	TREATMENT	Closed to Accrual
NCT02575508	Pan FGFR Kinase Inhibitor BGJ398 and Combination Chemotherapy in Treating Patients with Untreated Metastatic Pancreatic Cancer	Roswell Park Cancer Institute	I_II	TREATMENT	Withdrawn
NCT02581215	Combination Chemotherapy with or without Ramucirumab in Treating Patients with Metastatic or Recurrent Pancreatic Cancer	Emory University Hospital/Winship Cancer Institute	II	TREATMENT	Active
NCT02588443	RO7009789 with or without Nab-paclitaxel and Gemcitabine Hydrochloride before and after Surgery in Treating Patients with Newly Diagnosed Pancreatic Cancer That Can Be Removed by Surgery	Cancer Immunotherapy Trials Network	I	TREATMENT	Closed to Accrual
NCT02600949	Personalized Peptide Vaccine in Treating Patients with Advanced Pancreatic Cancer or Colorectal Cancer	M D Anderson Cancer Center	I	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02608229	Ulixertinib with Nab-Paclitaxel and Gemcitabine Hydrochloride in Treating Patients with Metastatic Pancreatic Cancer	Siteman Cancer Center at Washington University	I	TREATMENT	Active
NCT02620865	Bispecific Antibody Armed Activated T-cells with Aldesleukin and Sargramostim in Treating Patients with Locally Advanced or Metastatic Pancreatic Cancer	Wayne State University/Karmanos Cancer Institute	I_II	TREATMENT	Temporarily Closed to Accrual
NCT02638909	Ceritinib in Treating Patients with Activated Gastrointestinal Malignancies That Cannot Be Removed by Surgery	University of Colorado Hospital	II	TREATMENT	Closed to Accrual and Intervention
NCT02639026	Hypofractionated Radiation Therapy, Durvalumab, and Tremelimumab in Treating Patients with Metastatic Relapsed or Refractory Melanoma, Non-small Cell Lung Cancer, Breast Cancer, or Pancreatic Cancer	University of Pennsylvania/Abramson Cancer Center	I	TREATMENT	Active
NCT02643498	Stereotactic Body Radiation Therapy after Induction Chemotherapy in Treating Patients with Locally Advanced Pancreatic Cancer	Memorial Sloan Kettering Cancer Center	I	TREATMENT	Active
NCT02648282	GVAX Pancreatic Cancer Vaccine, Pembrolizumab, and Stereotactic Body Radiation Therapy in Treating Patients with Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery	Johns Hopkins University/Sidney Kimmel Cancer Center	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02648880	Exercise during Neoadjuvant Therapy before Surgery in Improving the Health of Patients with Newly Diagnosed Pancreatic Cancer	University of Colorado Hospital	NA	SUPPORTIVE_CARE	Closed to Accrual and Intervention
NCT02650635	TLR8 Agonist VTX-2337 and Cyclophosphamide in Treating Patients with Metastatic, Persistent, Recurrent, or Progressive Solid Tumors	Mayo Clinic in Arizona	I	TREATMENT	Complete
NCT02671890	Disulfiram and Gemcitabine Hydrochloride in Treating Patients with Unresectable Solid Tumors or Metastatic Pancreatic Cancer	Mayo Clinic	I	TREATMENT	Temporarily Closed to Accrual
NCT02677038	Olaparib in Treating Patients with Stage IV Pancreatic Cancer	M D Anderson Cancer Center	II	TREATMENT	Active
NCT02681601	Nutrition Supplementation in Improving Outcomes in Patients with Pancreatic Cancer That Cannot Be Removed by Surgery	UCLA / Jonsson Comprehensive Cancer Center	NA	SUPPORTIVE_CARE	Active
NCT02714374	GL-ONC1 with or without Eculizumab in Treating Patients with Solid Organ Cancers before Surgery	University of California San Diego	I	TREATMENT	Active
NCT02719691	Sapanisertib and Alisertib in Treating Patients with Incurable Refractory Solid Tumors or Metastatic Triple-Negative Breast Cancer	University of Colorado Hospital	I	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02723331	Combination Chemotherapy and Stereotactic Body Radiation Therapy before Surgery Followed by Combination Chemotherapy in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery	University of Colorado Hospital	II	TREATMENT	Active
NCT02736578	Cetuximab-IRDye 800CW and Intraoperative Imaging in Finding Pancreatic Cancer in Patients Undergoing Surgery	Stanford Cancer Institute Palo Alto	I_II	DIAGNOSTIC	Closed to Accrual
NCT02757859	High Volume Washing of the Abdomen in Increasing Survival After Surgery in Patients with Pancreatic Cancer That Can Be Removed by Surgery	Thomas Jefferson University Hospital	NA	SUPPORTIVE_CARE	Active
NCT02780648	Respiratory-Gated Stereotactic Body Radiation Therapy in Treating Patients with Recurrent or Residual Pancreatic or Periapillary Region Cancer	Indiana University/Melvin and Bren Simon Cancer Center	NA	TREATMENT	Active
NCT02782182	Combination Chemotherapy before and after Surgery in Treating Patients with Resectable Pancreatic Cancer	University of Chicago Comprehensive Cancer Center	NA	TREATMENT	Active
NCT02810418	LMB-100 with or without Nab-Paclitaxel in Treating Patients with Mesothelin Positive Solid Tumors or Recurrent, Metastatic, and/or Locally Advanced Pancreatic Cancer	NCI - Center for Cancer Research	I_II	TREATMENT	Active
NCT02834013	Nivolumab and Ipilimumab in Treating Patients with Rare Tumors	SWOG	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT02839343	Combination Chemotherapy with or without Hypofractionated Radiation Therapy before Surgery in Treating Patients with Pancreatic Cancer	Alliance for Clinical Trials in Oncology	II	TREATMENT	Temporarily Closed to Accrual
NCT02847000	Decitabine and Tetrahydrouridine in Treating Patients with Advanced Pancreatic Cancer That Has Progressed Through One or More Lines of Therapy	Case Comprehensive Cancer Center	O	TREATMENT	Complete
NCT02868632	Tremelimumab and/or Durvalumab with Radiation Therapy in Treating Patients with Non-metastatic Pancreatic Cancer That Cannot Be Removed by Surgery	Laura and Isaac Perlmutter Cancer Center at NYU Langone	I	TREATMENT	Closed to Accrual
NCT02873598	Stereotactic Body Radiation Therapy after Induction Chemotherapy in Treating Patients with Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery	University of Colorado Hospital	I	TREATMENT	Active
NCT02890355	FOLFIRI or Modified FOLFIRI and Veliparib as Second Line Therapy in Treating Patients with Metastatic Pancreatic Cancer	SWOG	II	TREATMENT	Closed to Accrual
NCT02896907	Ascorbic Acid and Combination Chemotherapy in Treating Patients with Locally Advanced or Recurrent Pancreatic Cancer That Cannot Be Removed by Surgery	Thomas Jefferson University Hospital	NA	TREATMENT	Closed to Accrual
NCT02907099	Pembrolizumab and CXCR4 Antagonist BL-8040 in Treating Patients with	M D Anderson Cancer Center	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
	Metastatic Pancreatic Cancer				
NCT02921022	Gemcitabine Hydrochloride, Nab-paclitaxel, PEGPH20, and Rivaroxaban in Treating Patients with Stage III-IV Pancreatic Cancer That Cannot Be Removed by Surgery	Memorial Sloan Kettering Cancer Center	II	TREATMENT	Active
NCT02942095	Ixazomib Citrate and Erlotinib Hydrochloride in Treating Patients with Advanced, Metastatic, Relapsed, or Refractory Solid Tumors	M D Anderson Cancer Center	I	TREATMENT	Active
NCT02959164	Decitabine and Gemcitabine Hydrochloride in Treating Patients with Metastatic Pancreatic Cancer, Soft Tissue Sarcoma, or Bone Sarcoma	University of Iowa/Holden Comprehensive Cancer Center	I	TREATMENT	Active
NCT02967770	Molecularly Tailored Therapy or Standard of Care Second-Line Therapy in Treating Patients with Metastatic Pancreatic Cancer	MedStar Georgetown University Hospital	II	TREATMENT	Active
NCT02985125	Ribociclib and Everolimus in Treating Patients with Metastatic Pancreatic Cancer That is Refractory to Chemotherapy	MedStar Georgetown University Hospital	I_II	TREATMENT	Active
NCT03001518	Immunologic Biomarkers in Blood Samples from Patients with Pancreatic Cancer Undergoing Surgery	Duke University Medical Center	NA	OTHER	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03012282	CT Perfusion Images in Assessing Treatment Response in Patients with Pancreatic Cancer	Fred Hutch/University of Washington Cancer Consortium	NA	OTHER	Enrolling by Invitation
NCT03021668	Prevena Peel & Place Dressing versus Standard Closure in Reducing Surgical Site Infection in Patients with Pancreatic Cancer Undergoing Pancreaticoduodenectomy	Johns Hopkins University/Sidney Kimmel Cancer Center	NA	PREVENTION	Active
NCT03033927	Circulating Tumor Cell and Tumor Tissue Models in Blood and Tissue Samples from Patients with Stage IV Pancreatic Cancer Undergoing Chemotherapy	Memorial Sloan Kettering Cancer Center	NA	OTHER	Active
NCT03038477	Durvalumab in Treating Patients with Pancreatic Cancer That Can Be Removed by Surgery after Chemotherapy	University of Colorado Hospital	II	TREATMENT	Temporarily Closed to Accrual
NCT03060720	Clinical Factors in Predicting Genetic Mutations in Patients with Pancreatic Cancer	Dana-Farber Harvard Cancer Center	NA	OTHER	Active
NCT03073785	Hypofractionated Stereotactic Body Radiation Therapy and Fluorouracil or Capecitabine with or without Zoledronic Acid in Treating Patients with Locally Advanced Pancreatic Cancer	University of Nebraska Medical Center	II	TREATMENT	Active

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NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03086642	Talimogene Laherparepvec in Treating Patients with Locally Advanced, Metastatic, or Refractory Pancreatic Cancer That Cannot Be Removed by Surgery	Columbia University/Herbert Irving Cancer Center	I	TREATMENT	Active
NCT03095781	Pembrolizumab and Hsp90 inhibitor XL888 in Treating Patients with Advanced Gastrointestinal Cancer	Emory University Hospital/Winship Cancer Institute	I	TREATMENT	Active
NCT03104439	Nivolumab, Ipilimumab, and Radiation Therapy in Treating Patients with Colorectal or Pancreatic Cancer	Dana-Farber Harvard Cancer Center	II	TREATMENT	Active
NCT03122106	Personalized DNA Vaccine in Treating Patients with Pancreatic Cancer Who Have Undergone Surgery and Received Chemotherapy	Siteman Cancer Center at Washington University	I	TREATMENT	Active
NCT03140670	Rucaparib Phosphate in Treating Patients with Advanced Pancreatic Cancer and a Known Deleterious BRCA1/2 or PALB2 Mutation	University of Pennsylvania/Abramson Cancer Center	II	TREATMENT	Approved
NCT03192462	Tumor-Associated Antigen-Specific Cytotoxic T Lymphocytes in Treating Participants with Locally Advanced, Advanced, Metastatic, or Resectable Pancreatic Cancer	Baylor College of Medicine/Dan L Duncan Comprehensive Cancer Center	I_II	TREATMENT	Active
NCT03213626	Cabozantinib S-Malate and Erlotinib Hydrochloride for Patients with EGFR and C-Met Co-expressing Metastatic Pancreatic Cancer	Indiana University/Melvin and Bren Simon Cancer Center	II	TREATMENT	Active

Appendix 4
Open NCI PDAC Supported Clinical Trials as of February 2018

NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03257761	Guadecitabine and Durvalumab in Treating Patients with Advanced Liver, Pancreatic, Bile Duct, or Gallbladder Cancer	USC / Norris Comprehensive Cancer Center	I	TREATMENT	Active
NCT03264404	Pembrolizumab and Azacitidine in Treating Patients with Advanced Pancreatic Cancer after Failure of First-Line Therapy	Columbia University/Herbert Irving Cancer Center	II	TREATMENT	Active
NCT03269526	EGFR-BATs in Treating Participants with Locally Advanced or Metastatic Pancreatic Cancer	University of Virginia Cancer Center	I_II	TREATMENT	Active
NCT03291938	IACS-010759 in Treating Participants with Relapsed or Refractory Lymphoma or Solid Tumors That Are Advanced, Metastatic, or Unresectable	M D Anderson Cancer Center	I	TREATMENT	Active
NCT03316599	Gemcitabine Hydrochloride, Nab-Paclitaxel, and Ficluzumab in Treating Patients with Advanced Pancreatic Cancer	Dana-Farber Harvard Cancer Center	I	TREATMENT	Active
NCT03318497	Fluorothymidine F-18 PET/CT in Predicting Outcome in Participants with Locally Advanced Pancreatic Cancer	UT Southwestern/Simmons Cancer Center-Dallas	II	DIAGNOSTIC	Active
NCT03334708	Biomarkers for the Early Detection, Surveillance, and Monitoring in Patients with Locally Advanced or Metastatic Pancreatic Cancer	Memorial Sloan Kettering Cancer Center	NA	DIAGNOSTIC	Active

Appendix 4
Open NCI PDAC Supported Clinical Trials as of February 2018

NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03337087	Liposomal Irinotecan, Fluorouracil, Leucovorin Calcium, and Rucaparib in Treating Patients with Metastatic Pancreatic, Colorectal, Gastroesophageal, or Biliary Cancer	Academic and Community Cancer Research United	I_II	TREATMENT	Approved
NCT03344172	Gemcitabine Hydrochloride, Nab-Paclitaxel, and Hydroxychloroquine Sulfate with or without Avelumab in Treating Participants with Resectable Pancreatic Cancer Before Surgery	University of Pittsburgh Cancer Institute (UPCI)	II	TREATMENT	Active
NCT03368963	TAS102 and Liposomal Irinotecan in Treating Patients with Gastrointestinal Cancers That Are Locally Advanced, Metastatic, or Cannot Be Removed by Surgery	Emory University Hospital/Winship Cancer Institute	I_II	TREATMENT	Active
NCT03373188	Anti-SEMA4D Monoclonal Antibody VX15/2503 with or without Ipilimumab or Nivolumab in Treating Patients with Stage I-III Pancreatic Cancer That Can Be Removed by Surgery or Stage IV Colorectal Cancer with Liver Metastasis That Can Be Removed by Surgery	Emory University Hospital/Winship Cancer Institute	I	TREATMENT	Active
NCT03374852	CPI-613 and Combination Chemotherapy in Treating Participants with Locally Advanced Pancreatic Cancer	Thomas Jefferson University Hospital	II	TREATMENT	Withdrawn

Appendix 4
Open NCI PDAC Supported Clinical Trials as of February 2018

NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03376659	Durvalumab, MVA-BN-CV301, FPV Vaccine CV301, and Capecitabine with or without Bevacizumab in Treating Patients with Metastatic Colorectal or Pancreatic Cancer	MedStar Georgetown University Hospital	I_II	TREATMENT	Approved
NCT03384238	Panitumumab-IRDye800 in Finding Cancer in Patients with Pancreatic Cancer Undergoing Surgery	Stanford Cancer Institute Palo Alto	I_II	DIAGNOSTIC	Active
NCT03432676	Epacadostat and Pembrolizumab in Treating Participants with Advanced Pancreatic Cancer	M D Anderson Cancer Center	II	TREATMENT	Approved
NCT03434678	Epidural-General Anesthesia or General Anesthesia in Reducing Complications and Improving Survival in Participants Undergoing Pancreaticoduodenectomy	Memorial Sloan Kettering Cancer Center	III	TREATMENT	Active
NCT03451773	M7824 and Gemcitabine Hydrochloride in Treating Participants with Previously Treated Advanced Pancreatic Cancer	NCI - Center for Cancer Research	I_II	TREATMENT	Temporarily Closed to Accrual and Intervention
NCT03469258	Pancrelipase in Treating Pancreatic Exocrine Insufficiency in Participants with Resected Pancreatic Cancer	Dana-Farber Harvard Cancer Center	II	SUPPORTIVE_CARE	Active
NCT03496662	CCR2/CCR5 Antagonist BMS-813160, Nivolumab, Gemcitabine Hydrochloride, and Nab-Paclitaxel in Treating Participants with Borderline Resectable or Locally Advanced Pancreatic Cancer	Siteman Cancer Center at Washington University	I_II	TREATMENT	Active

Appendix 4
Open NCI PDAC Supported Clinical Trials as of February 2018

NCT Number	Title	Sponsor	Phase	Primary Purpose	Current Trial Status
NCT03608631	iExosomes in Treating Participants with Metastatic Pancreas Cancer with KrasG12D Mutation	M D Anderson Cancer Center	I	TREATMENT	Approved
NCT03610490	Autologous Tumor Infiltrating Lymphocytes MDA-TIL in Treating Participants with Recurrent or Refractory Ovarian Cancer, Osteosarcoma, or Pancreatic Ductal Adenocarcinoma	M D Anderson Cancer Center	II	TREATMENT	Approved

Appendix 5
Meeting Agenda
Wednesday, October 17, 2018



**NCI CLINICAL TRIALS AND TRANSLATIONAL RESEARCH ADVISORY COMMITTEE (CTAC)
PROGRESS IN PANCREATIC DUCTAL ADENOCARCINOMA RESEARCH WORKING GROUP
(PDAC PROGRESS WG)**

**MEETING AGENDA
WEDNESDAY, OCTOBER 17, 2018
9:00 AM – 3:00 PM
NATIONAL INSTITUTES OF HEALTH
NATCHER CONFERENCE CENTER (BUILDING 45)
CONFERENCE ROOM D**

To access meeting via WebEx, click here: [Join Webex meeting](#)

Enter meeting access code: **731 576 078**/ Meeting password: DpK4Hp8?

For Audio Only Access: Dial **1-650-479-3207** and follow the instructions that you hear on the phone

9:00 AM – 9:05 AM	I. WELCOME AND INTRODUCTIONS	James Doroshow (NCI)
9:05 AM – 9:15 AM	II. OVERVIEW AND CHARGE	Tony Hollingsworth (U. NE)
9:15 AM – 10:45 AM	III. SESSION 1: NIH UPDATES	
9:15 AM – 9:30 AM	Biomarkers, Early Detection, Screening	Sudhir Srivastava (NCI)
9:30 AM – 9:45 AM	Consortium for the Study of Pancreatitis, Diabetes and Pancreatic Cancer (CPDPC)	Dana Anderson (NIDDK)
9:45 AM – 10:00 AM	Moonshot (Immunotherapy and Microenvironment)	Peter Ujhazy (NCI)
10:00 AM – 10:15 AM	RAS Initiative	Dwight Nissley (FNLRC)
10:15 AM – 10:45 AM	Q/A Discussion	All
10:45 AM – 11:00 AM	BREAK	
11:00 AM – 2:30 PM	IV. SESSIONS 2 – 5: HIGHLIGHTS FROM WEBINARS, SCIENTIFIC PROGRESS, GAPS/NEW OPPORTUNITIES	
	2014 Scientific Initiatives	
	○ Are they still scientifically relevant?	

Appendix 5
Meeting Agenda
Wednesday, October 17, 2018

- Do they need to be modified?
- Is the NCI on target in terms of research direction?
- New Opportunities

SESSION 2

11:00 AM – 11:45 AM

11:00 AM – 11:20 AM

11:20 AM – 11:45 AM

Panel

PDAC Biology

Moderator

Tony Hollingsworth (U. Nebraska)

Moderator Presentation

Tony Hollingsworth

Moderator-Led Discussion

Sunil Hingorani, Andrew Lowy, Anirban Maitra, Lynn Matrisian

SESSION 3

11:45 AM – 12:30 PM

11:45 AM – 12:05 PM

12:05 PM – 12:30 PM

Panel

Animal and Human Tissue Model Systems

Moderator

David Tuveson (Cold Spring Harbor)

Moderator Presentation

David Tuveson

Moderator-Led Discussion

Sunil Hingorani, Tony Hollingsworth, Anirban Maitra, Lynn Matrisian

12:30 PM – 1:00 PM

WORKING LUNCH

SESSION 4

1:00 PM – 1:45 PM

1:00 PM – 1:20 PM

1:20 PM – 1:45 PM

Panel

Risk, Prevention, Screening, Diagnosis

Moderator

Alison Klein (JHU)

Moderator Presentation

Alison Klein

Moderator-Led Discussion

Jane Holt, Murry Korc, David Mankoff, Gloria Petersen, Rachael Stolzenberg-Solomon

SESSION 5

1:45 PM – 2:30 PM

1:45 – 2:05 PM

2:05 – 2:30 PM

Panel

Treatment

Moderator

James Abbruzzese (Duke)

Moderator Presentation

James Abbruzzese

Moderator-Led Discussion

Christine Alewine, Jane Holt, Ted Lawrence

2:30 PM – 3:00 PM **V.**

SESSIONS 6: CONCLUSIONS

2:30 PM – 3:00

General Discussion,

Tony Hollingsworth

Additional Items Not Previously Discussed,
Summary, Action Items

Appendix 5
Meeting Agenda
Wednesday, October 17, 2018

2014 Scientific Initiatives

- Development of an in-depth understanding of the biological and clinical relationship between PDAC and diabetes mellitus (DM) of recent onset
- Evaluate longitudinal screening protocols for biomarkers for early detection of PDAC and its Precursors
- New therapeutic approaches in immunotherapy
- Developing new treatment approaches that interfere with RAS oncogene-dependent signaling pathways