

Recent study explains how green tea could reduce pancreatic cancer risk

Pancreatic cancer prevention is a very important part of our research funding programs. We are pleased to recognize Dr. Wai-Nang Lee, on his recent publication that identifies the mechanism of action of phytochemicals that reduce the risk of pancreatic cancer. He and his team received a Hirshberg Foundation Seed Grant in 2013. Last week the study, "Metabolic consequences of LDHA inhibition by epigallocatechin gallate and oxamate in MIA PaCa-2 pancreatic cancer cells" was published and we wanted to share this exciting news with all of you. In a recent interview Dr. Lee said, "By explaining how green tea's active component could prevent cancer, this study will open the door to a whole new area of cancer research and help us understand how other foods can prevent cancer or slow the growth of cancerous cells." Congratulations to Dr. Lee and his research team for their promising findings.

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At the Hirshberg Foundation, we are committed to funding research that accelerates our goal of early detection, prevention and a cure. Thank you for joining in our efforts.

Teen Scientist Shares our Message of Hope

PC365 – A Month is Not Enough



Each year The Hirshberg Foundation and our dedicated supporters eagerly await November – National Pancreatic Cancer Awareness Month. November is when we shine a light on one of the most lethal cancers known to mankind. We are painfully aware of the statistics: most people will not survive more than a year. Far too many of us are losing loved ones.

As I reflect on pancreatic cancer awareness month, I am haunted by one question: is one month enough for all the work we have to do? There are 365 days in a year and victims of pancreatic cancer die on each one of them. If we are to change the statistics, a month will never be enough for us to complete our vital work. This is why we are dedicated to working around the clock until we eradicate this horrible disease.

I call on you to join me in renewing our commitment to battle this devastating disease. Uniting in this fight is crucial! Please act now and support us in the global movement to end pancreatic cancer.

Direct Link between Obesity and Pancreatic Cancer

Posted in Medical News Today on 10/04/2013

Researchers at UCLA's Jonsson Comprehensive Cancer Center (JCCC) have found the first direct link between obesity and cancer of the pancreas.

This research was supported by the National Institutes of Health, the US Department of Veterans Affairs and the Hirshberg Foundation for Pancreatic Cancer Research.

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Metformin's Anti-Cancer Properties Clarified in an Obesity Cell Model of Pancreatic Cancer

SiDMAP and University of Arizona researchers gain a clearer understanding of the mechanistic properties of the drug metformin. The study may explain the mechanism of how elevated circulating cholesterol, which is an important disease modifying factor in the diabetic pancreatic cancer patient, alters cellular metabolism in a way that metformin's known fatty acid

synthase inhibiting effect becomes a cell growth limiting factor.

Los Angeles, California (PRWEB) July 22, 2013

SiDMAP, LLC, a leading provider of targeted ¹³C tracer fate association studies and biomarker development services, announces the publication of findings that metformin inhibits carbon flux towards new fatty acid synthesis in the presence of cholesterol, a known diseases factor in obesity and diabetes, to facilitate pancreatic cancer growth. The integrated nutritional and ¹³C Isotopologue-Wide Association Study with cholesterol administration to pancreatic cancer cell lines, is published in the official journal of the Metabolomics Society in collaboration with scientists at the University of Arizona, Department of Nutritional Sciences and the University of Arizona Cancer Center.

SiDMAP scientists provided the metabolic analysis for the study using pancreatic cancer cells expressing K-ras differently, which is a common mutation in pancreatic cancer. They integrated positional ¹³C labeling in multiple metabolic products in diverse sampling sites from a single ¹³C labeled glucose tracer. It is known that stable expression of K-ras induces a pancreatic cancer metabolic phenotype that competes for new acetate, formed from glucose, in the cholesterol and fatty acid producing pathways. "Cholesterol administration diverts new acetate towards fatty acid synthesis, which provides the contextual factor for metformin to inhibit new fatty acid synthesis, cell membrane turnover and potentially cell growth," said Dr. Laszlo G. Boros, Chief Scientist at SiDMAP.

"The study may explain the mechanism of how elevated circulating cholesterol, which is an important disease modifying factor in the diabetic pancreatic cancer patient, alters cellular

metabolism in a way that metformin's known fatty acid synthase inhibiting effect becomes a cell growth limiting factor," said Dr. Emmanuelle J. Meuillet, the study's lead investigator.

The work is published as a Springer Open Access article, online first, in the journal *Metabolomics* and is titled, "Contextual inhibition of fatty acid synthesis by metformin involves glucose-derived acetyl-CoA and cholesterol in pancreatic tumor cells." <http://link.springer.com/article/10.1007%2Fs11306-013-0555-4>

The study was supported by the Hirshberg Foundation for Pancreatic Cancer Research (<https://pancreatic.org>). "It is a key goal of the Foundation to bring lead scientists together to shed light on well-known, yet unexplained disease controlling mechanism of national research interest in obesity, diabetes and pancreatic cancer. This research is significant because it is in line with the National Cancer Institute's quest to find bold new approaches to answer the perplexing scientific question of why the mechanism of a drug like metformin, which is generally used for other indications, protects against cancer incidence and mortality," said Agi Hirshberg, President of the Foundation.

About SiDMAP

SiDMAP provides flux-based, metabolic profiling services to pharmaceutical, biotech and research organizations seeking to enhance their drug development processes, and develop further insights into a drug's mechanism of action and disease states. SiDMAP's unique tracer technology measures metabolic pathway flux to gain unique insights into cell function. A SiDMAP assay provides clients with an accurate, dynamic metabolic analysis of a compound's biological impact in both in vitro and in vivo systems, before a company spends millions more on development and clinical trials. SiDMAP is headquartered in Los Angeles, California.

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<http://www.digitaljournal.com/pr/1369617#ixzz2aTH0Ubp3>

Celebrating Discoveries

Scientific

The 10th Annual Agi Hirshberg Symposium will be held in conjunction with the annual meeting of the [American Pancreatic Association](#) in Miami from October 30–November 2, 2013. The program will highlight a decade of achievements of the Hirshberg Foundation Seed Grant Program. All former Seed Grant awardees, both nationally and internationally, will be invited to participate. This group of physicians and scientists have contributed significantly to our current knowledge and advancement in the mechanism of pancreatic cancer development to early diagnosis, surgical and chemotherapeutic management and psychosocial and prevention strategy of this disease. The Foundation's Scientific Advisory Board is very pleased and proud of the achievements of the program to date. We look forward to this national celebration and congratulate the Hirshberg Foundation for the success of their research Seed Grant Program.