# GRANT SNAPSHOT

## 2012 Skip Viragh – Pancreatic Cancer Action Network – AACR Career Development Award

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| Grantee: | Eric Collisson, MD |
| Institution: | University of California, San Francisco |
| Research Project: | *Optimizing MEK Inhibition in Pancreatic Cancer; from Cytostatic to Cidal* |
| Award Period: | July 1, 2012 – June 30, 2014 |
| Amount: | $200,000 |

## Biographical Highlights

Dr. Collisson earned a bachelor's degree in Molecular and Cellular Biology from UC Berkeley, and then completed his MD training at UC Los Angeles. His residency in Internal Medicine took place at Stanford University, followed by a fellowship in Hematology/Oncology at UC San Francisco. Currently, he is an Assistant Adjunct Professor in the Department of Medicine, Hematology/Oncology at UCSF, and staff physician at Veterans Affairs Hospital in San Francisco.

Dr. Collisson's list of publications includes a first-author paper in the highly prestigious journal *Nature Medicine* within the past year, as well as many other impressive papers and presentations. His research focuses on developing a more rapid approach to develop and test drugs for their usefulness in the treatment of pancreatic cancer. History has shown that a "one size fits all" mindset is not working, so novel treatment strategies will need to be customized to individual patients' disease.

## Project Overview

The vast majority (about 90 percent) of pancreatic tumors have mutations in the K-Ras gene. K-Ras becomes constantly activated by this mutation, signaling the cell to grow and ignore cues to stop growing. But, K-Ras does not act alone. Instead, the protein product of K-Ras activates a complex cascade of other proteins to ultimately lead to cellular changes.

One of the key proteins activated by K-Ras is called MEK. Because efforts to inhibit K-Ras as a means to stop the growth of pancreatic cancer have been unsuccessful, Dr. Collisson is opting to target MEK's activity instead. So far, his studies have shown that blocking MEK does cause cancer cells to stop growing (known as a cyto*static* effect), but does not kill the cells (cyto*cidal*). Dr. Collisson therefore proposes to discover additional treatment strategies that, when combined with MEK inhibition, will lead to cytocidal effects. He will accomplish this by systematically turning off the expression of various genes in pancreatic cancer cells, in the presence of MEK inhibition, and then identifying which combination (or combinations) is toxic to the cells. This type of study could reveal a novel multifaceted approach to kill pancreatic cancer cells, leading to more effective and sustained treatment options.