



Research

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GRANT SNAPSHOT

2008 Skip Viragh – Pancreatic Cancer Action Network – AACR Career Development Award

Grantee:	Hyunki Kim, PhD
Institution:	The University of Alabama at Birmingham
Research Project:	<i>MRI to Monitor Early Pancreatic-Tumor Response to a Novel Triple Therapy</i>
Award Period:	July 1, 2008 – June 30, 2010
Amount:	\$100,000



Biographical Highlights

Dr. Kim is an Assistant Professor in the Department of Radiology, University of Alabama at Birmingham (UAB). He received his PhD in Optical Sciences at the University of Arizona and completed his postdoctoral training at the Comprehensive Cancer Center at UAB. Dr. Kim joined the drug development program for pancreatic cancer treatment at his school after realizing how few drugs were available to treat pancreatic cancer patients. He is inspired to help fill this void and develop new drug therapeutics along with non-invasive imaging that will help establish personalized medicine for individual patients.

Project Overview

Investigators at UAB have developed a new drug, named TRA-8, which selectively kills cancer cells without having adverse effects on normal cells. TRA-8 has been found to be very effective in prolonging survival of mice having pancreatic cancer, especially when combined with conventional chemotherapy.

Currently, a Phase II clinical trial of TRA-8 combined with gemcitabine is underway at UAB for pancreatic cancer patients. Responses to the treatment are expected to vary among the patients. The funded project will develop a method to determine whether a patient is responding well to the treatment using two different magnetic resonance imaging techniques. Both of these techniques have the potential of quantifying therapeutic responses within a short interval after treatment (1-4 weeks). The two techniques include diffusion-weighted magnetic resonance imaging, which shows changes in cancer cell density in the tumor; and dynamic contrast-enhanced magnetic resonance imaging, which shows changes in blood delivery to the tumor. Both of these indicators - cancer cell density and blood delivery to the tumor - decline when treatment is effective.

Plans are to add radiotherapy together with TRA-8 combined with gemcitabine in animal studies, and then to subsequently extend testing to a limited patient trial in order to optimize and validate imaging collection and analyses parameters. The imaging results will help physicians determine treatment responses and how to best adjust treatment plans for patients during therapy, thereby maximizing treatment outcomes.