



**Research**

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## GRANT SNAPSHOT

### 2008 Pancreatic Cancer Action Network – AACR Pilot Grant

Grantee:	Bin Liu, PhD
Institution:	University of California, San Francisco
Research Project:	<i>Internalizing Human Antibodies targeting Pancreatic Tumor Cells in Situ</i>
Award Period:	July 1, 2008 – June 30, 2010
Amount:	\$100,000



### Biographical Highlights

After receiving his PhD in Biochemistry and Biophysics from the University of California, San Francisco (UCSF), Dr. Liu completed a postdoctoral fellowship in the Anesthesia and Pharmaceutical Chemistry Department. Currently, he is an Associate Professor in the Department of Anesthesia and a Program Member of the Comprehensive Cancer Center at UCSF. Dr. Liu has served on grant review panels for the National Institute on Health and is a reviewer for the *Journal of Molecular Biology*, *Molecular and Cellular Proteomics*, and *Journal of Molecular Medicine*.

### Project Overview

The funded project aims to identify internalizing human antibodies that target pancreatic adenocarcinoma cells in situ (in their natural tissue microenvironment). Currently, there are very few human antibodies that target pancreatic tumors and even fewer detect early stage tumors. The study examines the following two key hypotheses: (1) pancreatic tumors, like other tumors, possess unique cell surface molecules that distinguish tumors from non-neoplastic tissues; and (2) a subset of these tumor cell surface molecules are internalizing, and thus can be exploited for tumor-targeted intracellular payload delivery.

The methods and strategies used in this study are based on precise procurement of staged tumor cells by laser capture microdissection to select internalizing human antibodies that target pancreatic cells in situ. These novel antibodies, which are human in sequence, can be used in the future to develop noninvasive imaging-based strategies for early pancreatic tumor detection and targeted therapeutics based on tumor-specific intracellular drug delivery.