



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

Award ID:  
RP110223

Project Title:  
A novel strategy for attacking tumors based on the identification of a  
fundamental carbon-source signal driving cell growth

Award Mechanism:  
High Impact/High Risk

Principal Investigator:  
Tu, Benjamin P

Entity:  
The University of Texas Southwestern Medical Center

Lay Summary:

Despite decades of research, the mechanisms by which key metabolic and nutritional signals control cell growth and proliferation remain poorly understood. Using a unique model system, we have discovered one of the elusive mechanisms by which glucose and other carbon sources induce eukaryotic cells to enter a round of growth and proliferation. We propose to test whether a similar coordination of growth with respect to metabolism occurs to an extreme in various cancers and whether this mechanism can be exploited to selectively kill rapidly proliferating cancer cells. We believe these studies will significantly improve our understanding of cell growth control mechanisms and lead to novel strategies for the development of therapeutics to treat many types of cancers.