



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

Award ID:  
RP140449

Project Title:  
A New Cancer Target: AMPylation Machinery

Award Mechanism:  
High Impact/High Risk

Principal Investigator:  
Orth, Kim

Entity:  
The University of Texas Southwestern Medical Center

Lay Summary:

Herein, we propose to study a new cancer drug target that we hypothesize is exploited by malignant but not benign tumors. In normal cells, many regulatory "switches" can be turned on or off. In cancer cells, these "switches" are broken or mutated so that they are permanently on or off. We have discovered a protein called FicD that is used to turn off another important protein, called BiP. In many malignant cancer cells, BiP is inappropriately turned on. We plan to study how FicD turns BiP "off" and discover how another enzyme turns BiP "on", so that we can eventually design drugs to target this system, causing malignant cancer cells to die while leaving normal cells to survive.