CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP100686

Project Title:
New treatments for mutant K-Ras: the elephant in the room of cancer therapy.

Award Mechanism:
High Impact/High Risk

Principal Investigator:
Powis, Garth

Entity:
The University of Texas M.D. Anderson Cancer Center

Lay Summary:

The Ras oncogene is the biggest single problem for cancer therapy. Despite years of effort there is no effective Ras oncogene inhibitor and it overrides the antitumor effects of many new targeted cancer drugs leading to resistance to therapy. Using functional genomic technology we have identified new targets for selectively inhibiting oncogenic Ras activity and will develop selective small molecule inhibitors. The project is high risk since little is known about the biology of these proteins and their only druggable moiety is the PH domain, which itself is only just emerging as a drug target. The project is high reward in that the work could provide the long-sought-after drug for selectively inhibiting the Ras oncogene. We will use a state-of-the-art computational approach and biophysical techniques to rapidly discover and develop small molecule inhibitors of the PH domain through a unique academic/biotechnology company collaboration that will develop IP and jobs for Texas, and provide desperately needed therapy for cancer patients with the K-Ras mutation.