



## CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:  
RP140252

Project Title:  
Investigating and Preclinical Targeting Molecular Drivers of Muscle-  
Invasive Bladder Cancer

Award Mechanism:  
Individual Investigator

Principal Investigator:  
Chan, Keith

Entity:  
Baylor College of Medicine

### Lay Summary:

Bladder cancer is the fifth most common cancer and the most expensive cancer to treat (i.e. cost per patient) in the United States. In the past thirty years, there has been no major improvement in the survival of patients with muscle-invasive bladder cancer, since surgical removal of the entire bladder and chemotherapy still remain the major treatment options. Thus far, no specific therapy other than conventional therapy (e.g. chemotherapy, radiation) is clinically approved to treat invasive bladder cancer, since the genetic causes for invasion remains largely unknown. While other possible genetic causes were intensively studied and shown to be associated with human invasive bladder cancers in the last decades, previous laboratory studies could not verified them as major "drivers" for cancer invasion. Hence, it is essential to identify new "drivers" for bladder cancer invasion. Our proposal aims to tackle this question, by demonstrating an oncogene Stat3 and its signaling components as the drivers that cause invasive bladder cancer. In addition, we will investigate two FDA-approved drugs that will block the activators of Stat3, with the long-term goal to translate these therapies into human clinical trials to improve patient survival. Scientific Impact: If successful, achieving goals in our proposal will provide a major step in bringing the bench research to the bedside by offering two FDA-approved drug therapies to improve survival of invasive bladder cancer patients. This proposal involves active collaboration between a laboratory scientist (PI, Dr Keith S Chan), and a nationally known physician (Dr Seth P Lerner, clinical leader of The Bladder Cancer Genome Atlas Project initiated by the National Cancer Institute) who has tremendous experience in running large-scale clinical trials.