



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

Award ID:  
RP100678

Project Title:  
Discovery of Novel Anti-Tumor Therapeutics Targeted at Colon Cancer  
Stem Cells

Award Mechanism:  
Individual Investigator

Principal Investigator:  
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Entity:  
The University of Texas Health Science Center at Houston

Lay Summary:

A major problem in cancer therapy is that tumors often become resistant to treatment after initial response. Such resistance is believed to be mostly due to the existence of cancer initiating cells, also called cancer stem cells that can regenerate the tumor. For colon cancer, a gene called Lgr5 has been found that not only marks the cancer stem cells but also modulate their growth. Drugs that target Lgr5 can hit colon cancer stem cells directly and, therefore, offer the potential of curing the cancer. However, little is known about the mechanism of Lgr5, making it nearly impossible to start drug discovery efforts. Our proposal is to uncover the signaling mechanism of Lgr5, characterize its functions in the growth and migration of tumor cells, and then identify compounds that can block the function of Lgr5. Such compounds can be further optimized and evaluated in colon cancer models, and potentially developed into therapeutic agents.