CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP110395

Project Title:
A genetic approach to target EWS-FLI1 oncoprotein in Ewing's Sarcoma

Award Mechanism:
High Impact/High Risk

Principal Investigator:
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Entity:
The University of Texas Southwestern Medical Center

Lay Summary:

Ewing's sarcoma is a malignant tumor that occurs in children and young adults. Many cases are incurable, and even patients who are cured by combined surgery, chemotherapy and radiation face lifelong medical problems as a result of the treatment. We are seeking new approaches to find treatments that would be more effective and less toxic. Ewing's sarcoma is caused by the presence of an abnormal protein, called EWS-FLI1, in the tumor cells. No one has figured out how to "shut off" EWS-FLI1 in the cancer cells, or even what in what type of cell in the body Ewing's Sarcoma actually starts. We will use the zebrafish, a small aquarium fish that has cancer biology very similar to humans, to tackle this problem. Zebrafish have the advantage that we can take a very large-scale approach. We will determine what type of cells can form Ewing's tumors when EWS-FLI1 is present. We will also use the zebrafish to discover what other factors in the cell EWS-FLI1 uses to turn a normal cell into a cancer cell. The information that we gain could be directly used to make new, more effective treatments for Ewing's Sarcoma.