



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Award ID:
RP170401

Project Title:
Targeting The Glycolysis Pathway To Overcome Resistance To Cancer
Immunotherapy

Award Mechanism:
Individual Investigator

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

Lay Summary:

Immunotherapies have demonstrated durable cures in many patients with metastatic melanoma, the most aggressive form of skin cancer. However, the majority of cancer patients still fail to respond to immunotherapy. To develop novel strategies to enhance the response rate, it is important to understand what factors control the mechanisms of resistance in these patients. Our previous studies suggest that tumor cells may escape the immune system's attack by increasing glycolysis, which breaks down glucose to generate energy and other building blocks required for cell growth. In this proposal, the investigators will address 3 questions: 1) Can the expression of glycolysis related factors predict clinical outcome of immunotherapy-treated melanoma patients? 2) What is the effect of inhibition of glycolysis on the function of immune effector cells? 3) Can inhibition of glycolysis enhance the anti-tumor activity of cancer immunotherapy? The potential benefits of these studies include identifying patients who are most likely to benefit from immunotherapies, and the development of personalized combinations that may overcome resistance mechanisms which can be tested in future clinical trials.