LUNG CANCER RESEARCH FOUNDATION

RESEARCH GRANT PROJECT UPDATE • July 2024

MET+ mutation

grant

2022 LCRF and MET Crusaders Research Grant on MET-Driven Lung Cancer

project

Targeting glycolysis in MET altered lung cancer brain metastases

awardee

Timothy Burns, MD, PhD
Hillman Cancer Center, Univ. of Pittsburgh
Pittsburgh, PA

overview

Alterations in the MET gene can be very important in driving certain lung cancers. MET alterations can also be a path to resistance for oncogene driven cancers. There are several drugs that are available that inhibit MET but there is much to be learned. There has been an interest in studying the metabolism of MET driven tumors and whether more targets for potential treatment can be identified. Dr. Burns is using cancer cells and mouse models before and after treatment with inhibitors of MET to identify whether cancer cell growth has any specific dependencies and whether these dependencies are vulnerable to treatment.

update

Dr. Burns has identified a protein, HK2, and the TWIST1 pathway as potential targets. He has been depriving cancer cells of nutrients such as glucose to see what the effect is on the cancer cells. He is studying these effects on MET altered human cancer cells and investigating the use of drugs that inhibit the metabolism of the cancer cells. In addition to evaluating the metabolism in MET+ cancer cells there is also an interest in specifically looking at this approach in brain metastases from lung cancer patients.

impact

This groundbreaking research pioneers a novel approach to cancer treatment by pinpointing metabolic vulnerabilities within cancer cells, unveiling potential new treatment targets. Focusing on brain metastases, this work addresses a critical unmet need, paving the way for innovative and effective therapies.