LUNG CANCER RESEARCH FOUNDATION

RESEARCH GRANT PROJECT UPDATE • July 2024

KRAS+ mutation

grant

2022 LCRF and KRAS Kickers Research Grant on KRAS-Driven Lung Cancer

project

KRAS inhibitors for the treatment of invasive mucinous adenocarcinoma

awardee

Matthew Gumbleton, MD, PhD
University of Utah
Salt Lake City, UT

overview

Mucinous adenocarcinoma of the lung is a unique, locally aggressive subtype of lung cancer that has generally not benefited from the recent advances in targeted therapies or immunotherapy strategies now commonly used to treat other types of lung cancer. These cancers can have KRAS mutations which represent probably one of the most common abnormal genes that drives lung cancer.

update

Dr. Gumbleton is using mouse models that have the KRAS mutations G12D and G12C and treating them with drugs that inhibit KRAS. He is studying the gene profile of these cancer cells before and after treatment. He has noticed a change in the epidermal growth factor receptor family which has prompted an interest in combining EFGR and KRAS inhibitors in the treatment of these cancers.

impact

Targeting KRAS has long been a difficult challenge, but the recent availability of two drugs for KRAS G12C marks significant progress. Despite their activity, there is an urgent need for further advancements. The insights gained from this project could lead to more effective, practical drug combinations for clinical trials. While the focus is on mucinous adenocarcinoma, this research holds profound implications for all lung cancers with KRAS mutations, potentially transforming treatment paradigms.