LUNG CANCER RESEARCH FOUNDATION

RESEARCH GRANT PROJECT UPDATE • July 2024

ALK+ mutation

grant

2022 LCRF–ALK Positive Research Grant

project

Identifying epigenomic mechanisms of ALK TKI Resistance

awardee

Álvaro Quintanal Villalonga, PhD
Memorial Sloan Kettering Cancer Center
New York, NY

overview

Many advances have been made in the treatment of anaplastic lymphoma kinase positive (ALK+) lung cancer. Targeting ALK with tyrosine kinase inhibitor (TKI) agents has provided very effective therapy for patients with ALK+ lung cancer. Unfortunately, the vast majority of patients are not cured of their disease.

update

Dr. Villalonga is in the process of gathering tissue from patients with ALK+ lung cancer both before and after treatment. In the meantime, he is studying ALK+ lung cancer mouse models by examining tumors before treatment with the ALK+ inhibitor lorlatinib, at the time of maximum response to treatment when there is minimal residual cancer, and when the cancer progresses. The idea is to try to understand how and when resistance to treatment develops. He has identified a gene, CDC7, that appears to be involved in resistance. A drug that inhibits CDC7, simurosertib, is currently being studied in early clinical trials.

impact

Unlocking the mechanisms behind cancer's resistance to treatment is vital for advancing therapeutic strategies. Studying cancer before, during, and after treatment may give a clue regarding how to conquer resistance. Simurosertib stands out as a promising drug poised to play a key role in future clinical trials aimed at overcoming treatment resistance.