LUNG CANCER RESEARCH FOUNDATION

RESEARCH GRANT PROJECT UPDATE • July 2024

# EGFR+ mutation

**grant**

*2022 LCRF and EGFR Resisters Research Grant on EGFR-Driven Lung Cancer*

**project**

Predictive biomarkers and new therapeutic strategies to prevent EGFR TKI-refractory lung cancer progression

**awardee**

**Luke Hoeppner, PhD**
The Hormel Institute, Univ. of Minnesota
Minneapolis, MN

**overview**

Patients with lung cancer having mutations in epidermal growth factor receptor (EGFR) benefit from treatment with EGFR tyrosine kinase inhibitors (TKIs). Unfortunately, the vast majority of patients develop resistance to EGFR TKIs and the cancer progresses. New therapies to overcome resistance are desperately needed.

**update**

Dr. Hoeppner has discovered new biomarkers of resistance. DARPP-32 is a protein that is present in resistant EGFR+ cancer cells. DARPP-32 connects EGFR to ERBB3 and this connection promotes resistance. He has proven this theory using mouse models and is obtaining human tumor tissue to further verify his findings. There is a bispecific antibody, duligotuzumab, that targets both EGFR and ERBB3. In mouse models, he has demonstrated that inhibition of both EGFR & ERBB3 with duligotuzumab prevents EGFR TKI resistance in mice.

**impact**

This discovery holds transformative potential, indicating that dual inhibition of EGFR and ERBB3 with duligotuzumab could prevent or even reverse EGFR TKI resistance in patients with lung cancer, potentially extending their lives. The promise of a clinical trial using this drug in patients with EGFR+ lung cancer could mark a significant breakthrough in cancer treatment.