

June 15, 2017

Rexanna's Foundation for Fighting Lung Cancer
Mrs. Lisa Spain, Executive Director

Dear Lisa,

Thank you very much for your generous donation from the Rexanna Foundation to support our study to understand how EGFR/HER2 exon 20 mutant non-small cell lung cancers develop resistance to poziotinib. Approximately 6,000 patients a year in the US alone are diagnosed with exon 20 insertion mutation driven non-small cell lung cancer and are innately resistant to current therapies. We have previously identified poziotinib as a potential therapeutic to overcome this innate resistance, and a clinical trial has been opened here at MD Anderson to determine the efficacy of the drug in patients. However, like many therapies, tumors will inevitably become resistant to the treatment over time. Your support will allow us to get ahead of this process.

Using this contribution from your foundation, we will use human tumor cells derived from patients with EGFR or HER2 exon 20 mutant lung cancers to create cell lines that are resistant to poziotinib. This funding will allow us to use whole exome sequencing to determine if poziotinib resistance causes new or novel mutations in EGFR, HER2, or other genes to arise. Furthermore, we will use this donation to probe for changes in cell signaling due to poziotinib resistance using reverse phase protein array analysis. These two techniques will allow us to identify therapeutic targets on both a genomic and proteomic level. With the identification of new targets to overcome resistance to poziotinib, we will then be able to test rational therapeutic combinations to overcome poziotinib resistance in pre-clinical studies to may feed into clinical trials.

Again, we thank you for your generous support in our endeavors to understand mechanisms of drug resistance mechanisms in lung cancer and determine novel ways to overcome acquired drug resistance. We truly appreciate your assistance and look forward to sharing the results of our studies with you.

Sincerely,

