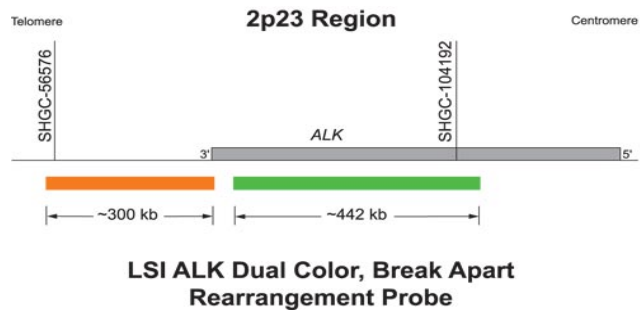


ALK FISH



Example ALK FISH Image



Lung cancer is the leading cause of cancer death in the United States. Non-small cell lung carcinoma (NSCLC) accounts for 75% to 80% of all lung cancers with an overall 5-year survival rate of 10% to 15%. Standard chemotherapy regimens have had marginal success in improving clinical outcomes. Targeted treatments may be used as novel molecular changes are identified.

Rearrangements of the *ALK* locus are found in a subset of lung carcinomas and their identification may guide important therapeutic decisions for the management of these tumors. The fusion of *EML4* (echinoderm microtubule-associated protein-like 4) gene with the *ALK* (anaplastic large cell lymphoma kinase) gene results from an inversion of chromosome band 2p23. The *ALK-EML4* rearrangement has been identified in 3% to 5% of NSCLC with the majority in adenocarcinoma and younger male patients who were light or nonsmokers. Recent studies have demonstrated that lung cancers harboring *ALK* rearrangements are resistant to epidermal growth factor receptor tyrosine kinase inhibitors, but may be highly sensitive to ALK inhibitors, like Xalkori (crizotinib). Clinical studies have demonstrated that Xalkori treatment of patients with tumors exhibiting *ALK* rearrangements can halt tumor progression or result in tumor regression. This FISH assay is a FDA-approved companion diagnostic test for Xalkori, which the FDA approved to treat certain patients with late-stage (locally advanced or metastatic), non-small cell lung cancers that harbor anaplastic lymphoma kinase (*ALK*) gene rearrangements. It can be used to identify patients who will benefit from Xalkori therapy.

See also [EGFR mutational analysis](#)

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