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Product Data Sheet
2p23 (ALK-BA) FISH Probe

Catalog #'s: F-ALK-Proximal (Red), F-ALK-Distal (Green)

Gene Information:

Anaplastic Lymphoma Receptor Tyrosine Kinase (ALK) transduces signals from ligands at the cell surface, through specific activation of the mitogen-activated protein kinase (MAPK) pathway and plays an important role in the genesis and differentiation of the nervous system. ALK is a proto-oncogene that can be activated by cytogenetic rearrangement with various partners.

Clinical Relevance:

General: ALK translocations lead to the fusion of the ALK tyrosine kinase domain with 1 of several different partner proteins resulting in ALK fusion kinases that are constitutively activated and drive cellular transformation. ALK translocations are observed in many cancers. Crizotinib is a tyrosine kinase inhibitor of ALK, ROS1, and MET.

Non-small Cell Lung Cancer (NSCL): The EML4-ALK fusion is observed in 3-5% of NSCL cases. Crizotinib and Ceritinib have been approved by the FDA for the treatment of ALK positive NSCL.

Anaplastic Large Cell Lymphomas (ALCL): ALK translocations are observed in ~60% of ALCL cases. The most common fusion is NPM-ALK. Clinical trials for the treatment of ALCL with Crizotinib are being conducted.

Probe Specifications:

Probe and target gene boundaries are indicated in relation to proximity to the centromere or telomere. Positions are based on UCSC genome assembly GRCh37/hg19.

Locus	Target			Probe			
	Gene	Centromere	Telomere	Probe	Centromere	Telomere	Size (Kb)
2p23	ALK	29,415,640	30,144,477	ALK Dist	29,478,218	29,871,783	394
				ALK Prox	29,006,311	29,390,106	384

For Investigational Use Only. The performance characteristics of this product have not been established.

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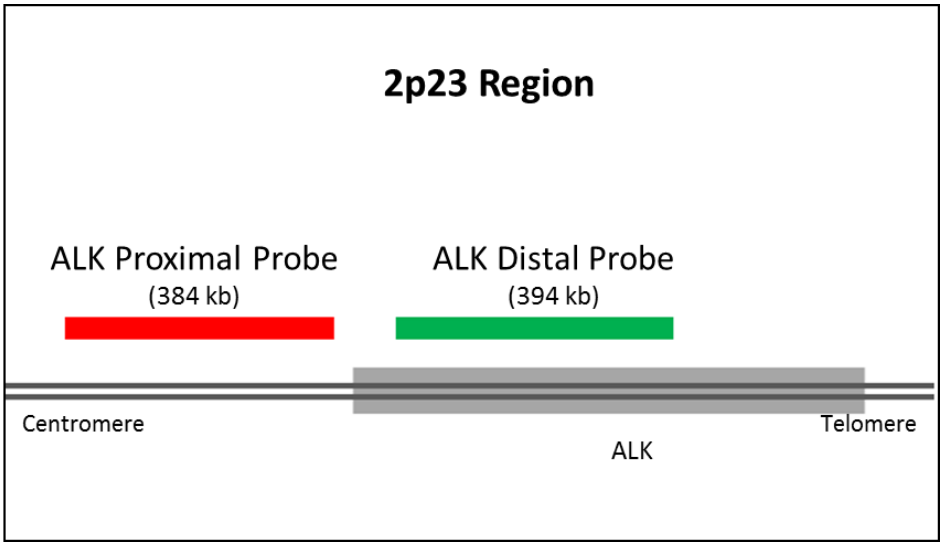
Probe Map:



Product Contents:

All individual or FISH probe cocktails are provided ready to use in hybridization buffer and can be blended with up to 4 total probes. Blocking DNA is included to suppress non-specific binding to similar sequences outside of the indicated binding sites. Researchers are advised to optimize slide processing and hybridization conditions.

Volume: 250µl
Reactions: 50 (5µl/ reaction)

Product Colors:

The ALK-BA probes are designed to yield a yellow color when the ALK gene is not split, and individual red or green signals when split.

Probe	Color	Dye	Absorbance	Emission
ALK-Proximal	Red	Alexa594	590	615
ALK-Distal	Green	Alexa488	495	519

Storage:

Store at -20°C
Protect from direct light.

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References:

1. Duyster J, Bai RY, Morris SW. Translocations involving anaplastic lymphoma kinase (ALK). Oncogene. 2001 Sep 10;20(40):5623-37. Review. PubMed PMID: 11607814.