

ALK/EML del-TECT Four Color

FISH Probe
902-7001-102517

BIOCARE
M E D I C A L

Catalog Number: PFR7001A

Description: ALK/EML del-TECT Four Color FISH Probe

Dilution: Ready-to-use

Volume: 100 µL

Intended Use:

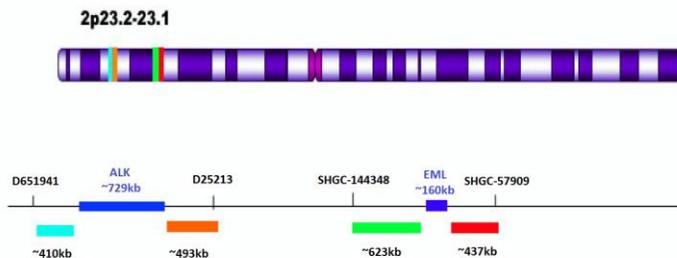
For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

A study discovered the existence of a fusion gene in 3%-7% of non-small-cell lung cancer (NSCLC), almost entirely in adenocarcinoma patients. The novel fusion comprising portions of the echinoderm microtubule-associated-protein-like 4 (EML4) gene and the anaplastic lymphoma kinase (ALK) gene resulted from a small inversion within chromosome 2p, and appears to be mutually exclusive of EGFR and KRAS mutations^{1,2}.

Principle of Procedure:

To identify gene rearrangements on chromosome 2 involving the ALK and EML gene. The two probes flanking the ALK gene are a telomeric aqua ALK probe (~410 kb in size) and a centromeric orange probe (~493kb in size). The two probes flanking the EML4 gene are a telomeric green probe (~623kb in size) and a centromeric red probe (~437kb in size).



Species Reactivity: Human

Known Application:

Fluorescence In-situ Hybridization (FISH) on formalin-fixed paraffinembedded (FFPE) tissues.

Supplied As: Probe in hybridization buffer.

Storage and Stability:

Store probe at -20°C and away from light. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date.

Technical Note:

Biocare Medical FISH probes are optimized to provide the best signal performance using optical filters that can accommodate the excitation/emission wavelengths specified below. Using filters outside these spectral specifications may produce sub-optimal results.

Fluorophore	Excitation (nm)	Emission (nm)
AQUA	434	481
GREEN	498	522
ORANGE	537	556
RED	592	628

Precautions:

1. This product is Research Use Only.
2. It is the responsibility of the user to validate any test for its specific use.
3. This product contains formamide, which may be toxic. Formamide may cause serious eye damage or reproductive toxicity. It may also cause irritation by inhalation or skin contact. Avoid any direct contact exposure to reagent. Take appropriate protective measures (use disposable gloves, protective glasses, and lab garments).
4. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water⁶.
5. The SDS is available upon request and is located at <http://biocare.net/>.

References:

1. Soda M., et al. Identification of the transforming EML4-ALK fusion gene in non-small-cell lung cancer. 2007. *Nature* 448:561-566.
2. Inamura K., et al. EML4-ALK fusion is linked to histological characteristics in a subset of lung cancers. 2008. *J Thorac Oncol* 3:13-17.
3. Shaw AT., et al. Clinical features and outcome of patients with non-small-cell lung cancer harboring EML4-ALK. 2009. *J Clin Oncol* 27:4247-4253.
4. Sasaki T., et al. The biology and treatment of EML4-ALK non-small cell lung cancer. 2010. *Eur J Cancer* 46:1773-1780.
5. Shaw AT., et al. Effect of crizotinib on overall survival in patients with advanced non-small-cell lung cancer harbouring ALK gene rearrangement: a retrospective analysis. 2011. *The Lancet Oncol* 12:1004-1012.
6. Clinical and Laboratory Standards Institute (CLSI). Protection of laboratory workers from occupationally acquired infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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