ALK (2p23.2) Break Apart Red/Green

FISH Probe
902-7003-102517

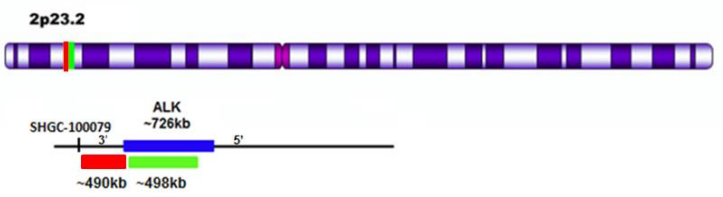
BIOCARE MEDICAL

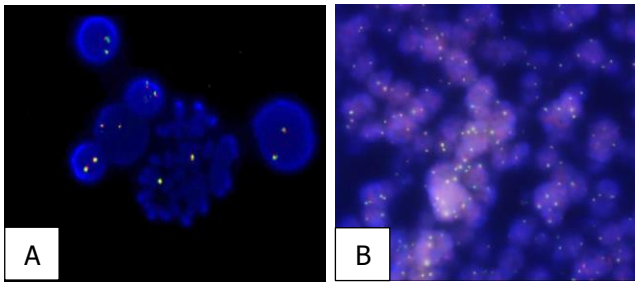
Catalog Number: PFR7003A
Description: ALK (2p23.2) BREAK APART FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

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

Summary and Explanation:
The ALK (2p23.2) Break Apart FISH Probe is designed to detect the rearrangement of the ALK gene located on 2p23. The ALK gene can fuse with one of 20 known ALK gene rearrangement partners, the most common being t(2;5)(p23;q35)[1].The resultant fusion proteins generated from ALK gene rearrangement plays a vital role in driving the pathogenesis of several different types of cancer, such as non-small lung cancer and anaplastic large cell lymphoma[2].

Principle of Procedure:
The ALK (2p23.2) Break Apart (Red/Green) probe flanks the 3′ telomeric end of the ALK gene in red (~490kb) and the flanks the 5′ centromeric end of the ALK gene in green (~498kb). Two yellow (red/green) fusion signals will be observed in normal diploid nuclei, when the probe is hybridized to a normal cell. The most common pattern observed in cells containing chromosomal rearrangements involving ALK, is a yellow (red/green) fusion signal and one red and one green signal. The yellow fusion signal represents one normal chromosome 2 and the individual red and green signals represent a chromosomal rearrangement derivative. Variant or atypical signal patterns can be observed in metaphase analysis; it is recommended that these signals be confirmed whenever possible.





(A) The ALK (2q23.2) Red/Green probe hybridized on a normal cell will show two yellow fusion signals. Interphase and metaphase cellular state are shown. (B) ALK Break Apart Red/Green FISH probe hybridized on FFPE tissue.

Species Reactivity: Human

Known Application: Fluorescence *in-situ* Hybridization (FISH) on formalin-fixed paraffin embedded (FFPE) tissues.

Supplied As: Probe in hybridization buffer.

Storage and Stability:
Store probe at -20ºC 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's Break Apart 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)
GREEN	498	522
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 water[3].
5. The SDS is available upon request and is located at http://biocare.net/.

Technical Support:
Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. Pearson, Joel D., Jason K. H. Lee, Julinor T. C. Bacani, Raymond Lai, and Robert J. Ingham. "NPM-ALK: The Prototypic Member of a Family of Oncogenic Fusion Tyrosine Kinases." Journal of Signal Transduction: 1-14.
2. Iacono, D., R. Chiari, G. Metro, C. Bennati, G. Bellezza, C. Cenci, B. Ricciuti B, A. Sidoni, S. Baglivo, V. Minotti, and L. Crinò. "Future Options for ALK-positive Non-small Cell Lung Cancer." Lung Cancer 87.3 (2014): 211–219.
3. 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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