CDKN2A del-TECT Four Color

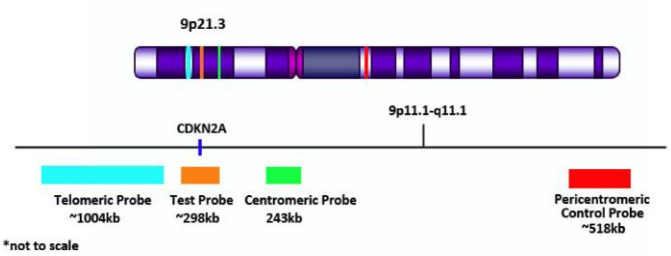
FISH Probe
902-7007-102517

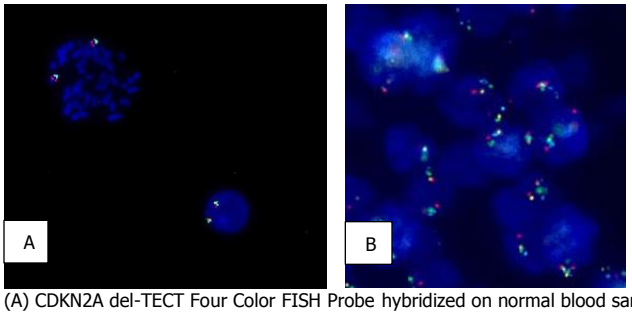
Catalog Number: PFR7007A
Description: CDKN2A del-TECT Four Color FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

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

Summary and Explanation:
The CDKN2A gene, also known as the p16 gene has been implicated in numerous cancers[1]. The CDKN2A (p16) gene encodes a cyclin dependent kinase inhibitor protein and functions as a cell cycle regulator[1]. Gene aberrations involving the CDKN2A gene such as gene deletion and mutation are commonly identified in various cancers[1, 2]. Homozygous deletion of CDKN2A results in the inactivation of its gene function and is considered one of the mechanisms that drive leukemogenesis[2]. Furthermore, a multiplicity of solid tumors such as lung, glioma, bladder, pancreatic, and renal cancers contain CDKN2A deletions[3]. The high prevalence of CDKN2A gene deletions in variety of cancers, make it a viable cytogenetic target[1]. Conventional cytogenetic techniques such as fluorescent in situ hybridization (FISH) can be used to detect CDKN2A deletions.

Principle of Procedure:
The CDKN2A del-TECT Four Color FISH Probe greatly increases the reliability of deletion detection of the CDKN2A gene region. The CDKN2A probe located at 9p21.3 is labeled in orange, covers the CDKN2A gene and is ~298kb in size. The telomeric probe flanking the CDKN2A probe is ~1004kb in size, located at 9p22.2 and is labeled in aqua. The centromeric probe flanking the CDKN2A probe is ~243kb, located at 9p21.2 and is labeled in green. The pericentromeric control probe located at 9q21.11 is ~518kb in size and is labeled in red.





(A) CDKN2A del-TECT Four Color FISH Probe hybridized on normal blood sample. Interphase and metaphase cellular states are shown. (B) CDKN2A del-TECT Four Color FISH Probe hybridized on FFPE tissue.

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 -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 Four Color 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 water[4].
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. Liggett Jr, William H, and David Sidransky. "Role of the P16 Tumor Suppressor Gene in Cancer." *Biology of Neoplasia* 16.3 (1998): 1197-206. Print.
2. Sulong, S., A. V. Moorman, J. A. E. Irving, J. C. Strefford, Z. J. Konn, M. C. Case, L. Minto, K. E. Barber, H. Parker, S. L. Wright, A. R. M. Stewart, S. Bailey, N. P. Bown, A. G. Hall, and C. J. Harrison. "A Comprehensive Analysis of the CDKN2A Gene in Childhood Acute Lymphoblastic Leukemia Reveals Genomic Deletion, Copy Number Neutral Loss of

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

Tel: 800-799-9499 | www.biocare.net | Fax: 925-603-8080

Heterozygosity, and Association with Specific Cytogenetic Subgroups." *Blood* (2008): 100-07. Print.

3. Quesnel, Bruno, Claude Preudhomme, Nathalie Philippe, Mickael Vanrumbeke, Isabelle Dervite, Jean Luc Lai, Francis Bauters, Eric Wattel, and Pierre Fenaux. "P16 Gene Homozygous Deletions in Acute Lymphoblastic Leukemia." *Blood* 85.3 (1995): 657-63. Print.
4. 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.

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

Tel: 800-799-9499 | www.biocare.net | Fax: 925-603-8080