CDKN2A (9p21.3) Orange + 9q21.11 Green

FISH Probe
902-7008-102517

BIOCARE MEDICAL

Catalog Number: PFR7008A

Description: CDKN2A (9p21.3) Orange + 9q21.11 Green FISH Probe

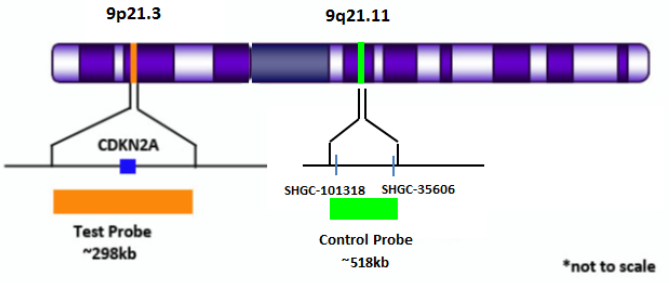
Dilution: Ready-to-use

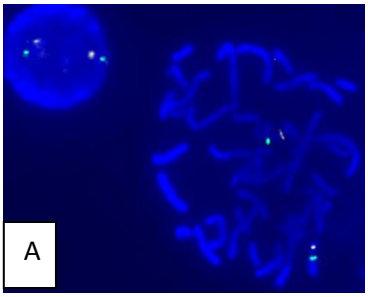
Volume: 100 µL

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

Summary and Explanation:
The CDKN2A (9p21.3) Orange + 9q21.11 Green probe is designed to detect copy number variations located on the 9p21.3 locus on chromosome 9, including the tumor suppressor gene CDKN2A. 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 (9p21.3) Orange + 9q21.11 Green FISH probe is designed to detect ~298kb of the CDKN2A (9p21.3) region and ~ 518kb of the 9q21.11 region on chromosome 9. A normal cell would show two orange and two green signals.





(A) CDKN2A (9p21.3) Orange + 9q21.11 Green FISH Probe hybridized on normal blood sample. Interphase and metaphase cellular state are shown.

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 dual 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)
GREEN	498	522
ORANGE	537	556

Limitations:
This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:
1. This product contains formamide and fluorescent dyes that may be hazardous to your health. The SDS is available upon request and is located at http://biocare.net.
2. 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].

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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 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.

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