

PHLPP1 (18q21) Red + Copy Control 18 Green

FISH Probe
902-7035-102517

BIOCARE
M E D I C A L

Catalog Number: PFR7035A

Description: PHLPP1 (18q21) Red+ Copy Control 18 Green FISH Probe

Dilution: Ready-to-use

Volume: 100 µL

Intended Use:

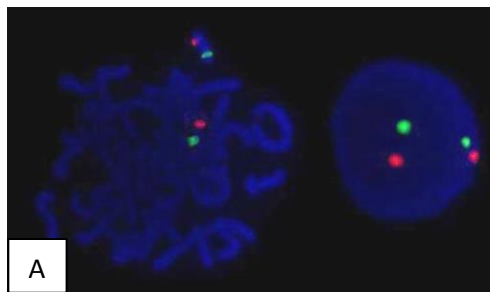
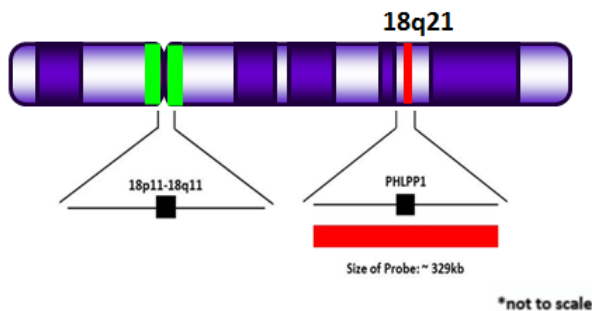
For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

The PHLPP1(18q21) Red + Copy Control 18 Green probe is designed to detect copy number variations in the 18q21 region on chromosome 18. The PHLPP1 gene encodes a protein phosphatase that regulates cell growth and survival pathways¹. It has been stated that PHLPP1 gene aberrations contribute to the deregulation of the AKT and PKC cell growth and survival pathway in colorectal cancer¹. PHLPP1 gene expression exhibits tumor suppressor properties in colon cancer¹. Furthermore, PHLPP1 may serve as a therapeutic target that inhibits prostate cancer progression through mTORC2 antagonism². Preliminary studies also suggest a correlation between PHLPP1 and PTEN gene aberrations related to prostate cancer metastasis².

Principle of Procedure:

The PHLPP1 (18q21) Red + Copy Control 18 Green FISH probe is designed to detect ~329kb of the PHLPP1 (18q21) region and the centromeric region of chromosome 18.



(A) The PHLPP1 (18q21) Red + Copy Control 18 Green probe hybridized on a normal cell will show two red and two green signals. 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 -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 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) |
|-------------|-----------------|---------------|
| RED | 592 | 628 |
| GREEN | 498 | 522 |

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, 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). 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 water³.

Technical Support:

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

References:

1. " Liu, J., H L Weiss, P. Rychahou, L N Jackson, B M Evers, and T. Gao. "Loss of PHLPP Expression in Colon Cancer: Role in Proliferation and Tumorigenesis." *Oncogene* (2008): 994-1004. Print.

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2. Chen, Muhan, Christopher P Pratt, Martha E Zeeman, Nikolaus Schultz, Barry S Taylor, Audrey O'Neill, Mireia Castillo-Martin, Dawid G Nowak, Adam Naguib, Danielle M Grace, Jernej Murn, Nick Navin, Gurinder S Atwal, Chris Sander, William L Gerald, Carlos Cordon-Cardo, Alexandra C Newton, Brett S Carver, and Lloyd C Trotman. "Identification of PHLPP1 as a Tumor Suppressor Reveals the Role of Feedback Activation in PTEN-mutant Prostate Cancer Progression." *Cancer Cell*. (2011): 173-86. Print.
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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