PTEN/ ERG 2+2 Multiplex Four Color

FISH Probe
902-7033-102517

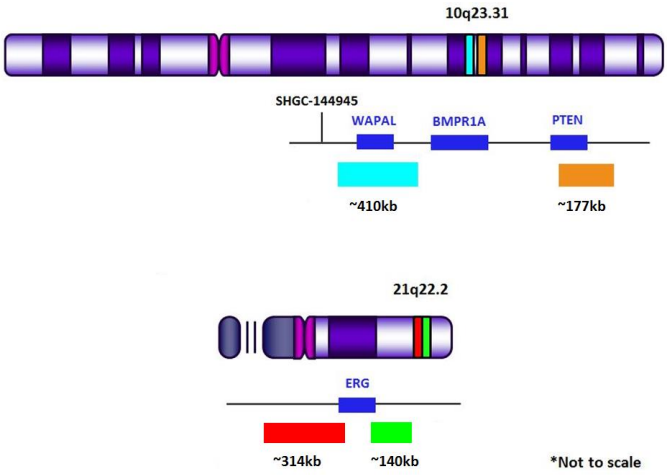
BIOCARE MEDICAL

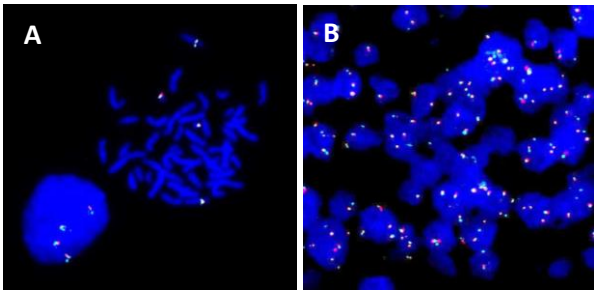
Catalog Number: PFR7033A
Description: PTEN/ ERG 2+2 Multiplex Four Color FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

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

Summary and Explanation:
Research has shown that deletions of PTEN occur at a very high frequency in prostate cancer.[1] Other studies have demonstrated an association between decreased PTEN protein expression and a higher Gleason grade and advanced tumor stage.[2] In a study by Yoshimoto it was demonstrated that the presence of PTEN genomic losses are frequent at diagnosis and are a significant prognostic marker for the subsequent development of clinically advanced disease.[3] The TMPRSS2: ERG fusion gene, is a transcription promoter that contributes to the proliferation and invasive capacity of cancer cells.[4] The combination of PTEN loss and ERG overexpression has been associated with aggressive disease.[5]

Principle of Procedure:
The PTEN Orange Probe is designed to provide coverage of the 10q23.31 (~ 177 kb) region of chromsome 10. The WAPAL Aqua Probe is designed to provide coverage of the 10q23.31 (~ 410 kb) region of chromosome 10. The ERG Red Probe is designed to provide coverage of the 21q22.2 (~ 314 kb) region of chromosome 21. The ERG Green Probe is designed to provide coverage of the 21q22.2 (~ 140 kb) region of chromosome 21.





A) PTEN/ ERG 2+2 Multiplex FISH Probe Four Color FISH probe hybridized on normal blood sample. Interphase and metaphase cellular states are shown. B) PTEN/ ERG 2+2 Multiplex FISH Probe Four Color FISH probe hybridized on an FFPE sample.

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 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	432	472
GREEN	498	521
ORANGE	546	575
RED	593	618

Limitations:
1. This product is Research Use Only.
2. It is the responsibility of the user to validate any test for its specific 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).
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

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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[6].

3. The SDS is available upon request and is located at http://biocare.net/.

Technical Support:

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

References:

1. Interphase FISH analysis of PTEN in histologic sections shows genomic deletions in 68% of primary prostate cancer and 23% of high-grade prostatic intra-epithelial neoplasias. Yoshimoto M, Cutz JC, Nuin PA, Joshua AM, Bayani J, Evans AJ, Zielenska M, Squire JA. Cancer Genet Cytogenet 2006. 169: 128–137.
2. Loss of PTEN expression in paraffin-embedded primary prostate cancer correlates with high Gleason score and advanced stage. McMenamin ME, Soung P, Perera S, Kaplan I, Loda M, Sellers WR. Cancer Res 1999. 59: 4291–4296
3. FISH analysis of 107 prostate cancers shows that PTEN genomic deletion is associated with poor clinical outcome. Yoshimoto M, Cunha IW, Coudry RA, et al. British J of Cancer. 2007;97:678-685.
4. ETS factors reprogram the androgen receptor cistrome and prime prostate tumorigenesis in response to PTEN loss. Yu Chen, Ping Chi, Shira Rockowitz, Phillip J Iaquinta, Tambudzai Shamu. Nature Medicine 19, 1023–1029 (2013).
5. TMPRSS2-ERG and PTEN loss in prostate cancer. Jeremy A Squire. Nature Genetics 41, 509 - 510 (2009)
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.