TP53 del-TECT™ Four Color

FISH Probe
902-7042-013018

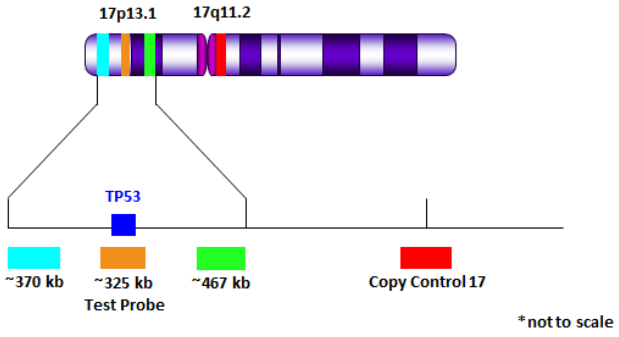
BIOCARE MEDICAL

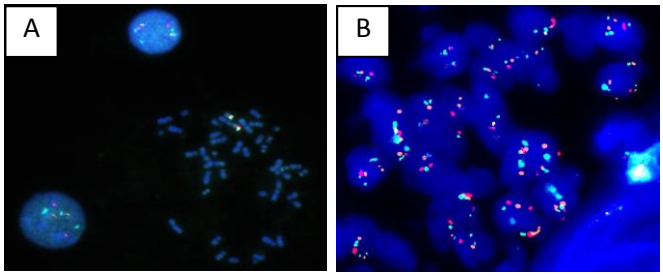
Catalog Number: PFR7042A
Description: TP53 del-TECT™ Four Color FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

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

Summary and Explanation:
The p53 tumor suppressor protein is encoded by the TP53 gene located on chromosome 17p13.1. Under normal conditions the TP53 gene functions as a safeguard in maintaining cellular homeostasis[1]. Furthermore, the TP53 gene regulates suppressive mechanisms that mediate cell cycle arrest, senescence and apoptosis[1]. Chromosomal abnormalities involving the TP53 gene are associated with several hematological cancers[1]. TP53 gene deletions have been commonly identified in both multiple myeloma (MM) and chronic lymphocytic leukemia patients (CLL) [1,2]. Regarded as a prognostic marker, TP53 gene deletions are identified in approximately 10% of MM patients and in 5-10% of CLL patients[1, 2]. Conventional cytogenetic techniques such FISH can be used to identified TP53 copy number variations with high accuracy.

Principle of Procedure:
The TP53 del-TECT™ Four Color FISH probe is designed to detect copy number variations of chromosome 17. The TP53 orange probe is approximately 325 kb, the TP53 telomeric aqua probe is approximately 597 kb, and the TP53 centromeric green probe is approximately 467 kb. The copy control probe is located at the centromeric region of chromosome 17 (17q11.2) and is labeled in red. The orange, green, and aqua probes are all located at the 17p13.1 region of chromosome 17. The combination of these three colored probes (green, orange and aqua) all in close proximity to each other eliminates the possibility of truncation of the region and allows for the determination of the actual size of the deletion. A normal cell would show two orange, two aqua, two red and two green signals.





A) TP53 del-TECT Four Color FISH probe hybridized on normal blood sample. Interphase and metaphase cellular state are shown. B) TP53 del-TECT Four Color 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 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	432	472
GREEN	498	521
ORANGE	546	575
RED	593	618

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

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contact with sensitive areas, wash with copious amounts of water[3].

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

References:

1. Teoh, P.J, and W.J. Chng. "P53 Abnormalities and Potential Therapeutic Targeting in Multiple Myeloma." *BioMed Research International* (2014): 1-9. Print.
2. Shindiapina, Polina, Jennifer R. Brown, and Alexey V. Danilov. "A New Hope: Novel Therapeutic Approaches to Treatment of Chronic Lymphocytic Leukemia with Defects in TP53." *British Journal of Hematology* (2014): 149-61. 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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