IGH (14q32) Green/ FGFR3 (4p16.3) Orange

FISH Probe
902-7019-113017

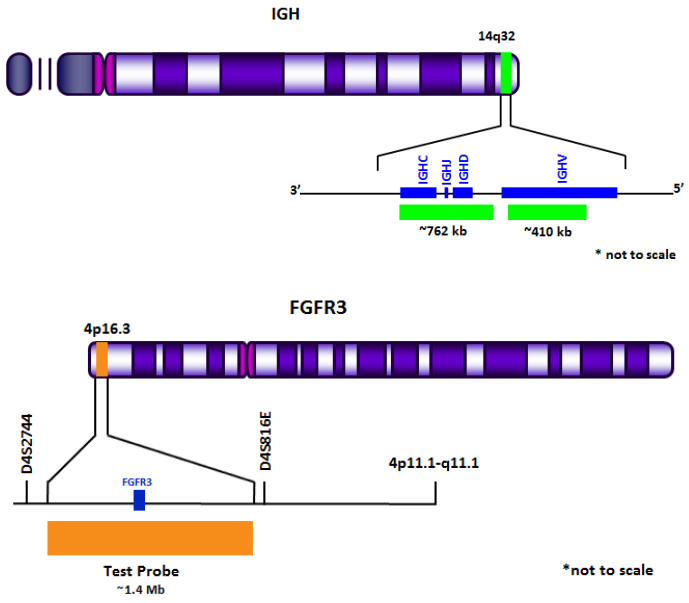
BIOCARE MEDICAL

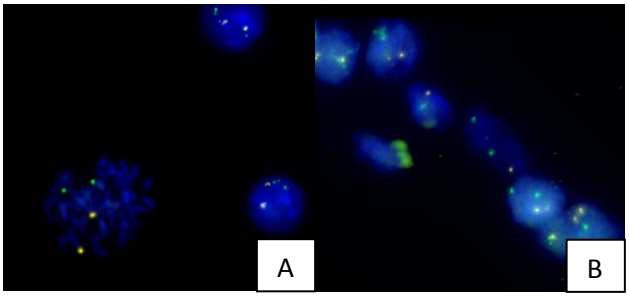
Catalog Number: PFR7019A
Description: IGH (14q32) Green/ FGFR3 (4p16.3) Orange FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

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

Summary and Explanation:
IGH gene rearrangements are considered to be one of the classical cytogenetic gene aberrations associated with numerous cancers such as: Chronic lymphocytic leukemia (CLL), Multiple Myeloma (MM), and Non-Hodgkin lymphoma[1, 2, 3]. Chromosomal rearrangements involving the IGH gene have been identified in 70% of MM patients, 50% of non-Hodgkin's lymphoma patients, and 16% of CLL patients[2, 4, 5]. Cytogenetic abnormalities involving the IGH gene give rise to unique gene rearrangement patterns that are used to characterize the molecular pathogenesis of multiple myeloma[6]. IGH gene rearrangement partners such as FGFR3 have been identified in recurrent chromosomal rearrangements and are used to stratify patients with different diseases phenotypes [7, 8].

Principle of Procedure:
The IGH (14q32) Green/ FGFR3 (4p16.3) Orange FISH Probe is designed to provide coverage of the constant (~762kb) and variable (~410kb) regions of the IGH gene in green on chromosome 14, along with ~1.4Mb of the FGFR3 (4p16.3) region of chromosome 4 in orange. A normal cell would show two orange and two green signals.





(A) IGH (14q32) Green/ FGFR3 (4p16.3) Orange FISH probe hybridized on normal blood sample. Interphase and metaphase cellular states are shown. (B) IGH (14q32) Green/ FGFR3 (4p16.3) Orange 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 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

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[9].
5. The SDS is available upon request and is located at http://biocare.net/.

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

References:

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2. Moreau, P. "Recurrent 14q32 Translocations Determine the Prognosis of Multiple Myeloma, Especially in Patients Receiving Intensive Chemotherapy." *Blood* (2002): 1579-583. Print.
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5. Lu, Gary, Yue Kong, and Changjun Yue. "Genetic and Immunophenotypic Profile of IGH@ Rearrangement Detected by Fluorescence in Situ Hybridization in 149 Cases of B-cell Chronic Lymphocytic Leukemia." *Cancer Genetics and Cytogenetics* (2009): 56-63.
6. Kalff, A, and A Spencer. "The t(4;14) Translocation and FGFR3 Overexpression in Multiple Myeloma: Prognostic Implications and Current Clinical Strategies." *Blood Cancer Journal* 2.9 (2012): e89–. *PMC*. Web. 7 Mar. 2016.
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9. 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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