IGH (14q32) Variable Green FISH Probe

Control Number: 901-7279-012218

BIOCARE MEDICAL

Catalog Number: HFI7279A
Description: IGH (14q32) Variable Green FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

Intended Use:
For In Vitro Diagnostic Use.

IGH (14q32) Variable Green FISH Probe is intended to hybridize to the 14q32 region on chromosome 14. The clinical interpretation of any positive or negative hybridization events should be complemented by the use of appropriate controls and other diagnostic tests where appropriate. Evaluation should be carried out within the context of the patient's clinical history by a qualified pathologist.
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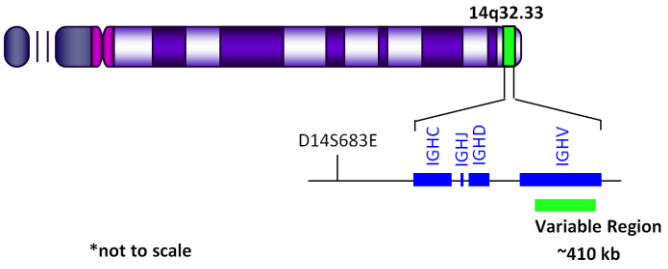
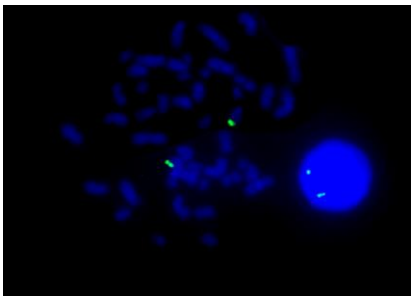
Summary and Explanation:
IGH rearrangements including translocations and fusions involving a variety of other genes is a common event. Numerous studies have shown that these rearrangements, with, for example MYC, MAF, CCND1 and MALT1 to be implicated in numerous hematological tumors including lymphomas, leukemia's and multiple myeloma[1,2,3,4].

Principle of Procedure:
The IGH (14q32) Variable Probe is approximately 410 kb in size and is designed to provide coverage of the 14q32 region of chromosome 14.





IGH (14q32) Variable Green FISH probe hybridized on normal blood sample. Interphase and metaphase cellular states are shown.

Species Reactivity: Human

Known Application:
Fluorescence In-Situ Hybridization (FISH) on hematological samples.

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.

Protocol Recommendations:
1. Apply 10 µl of probe mix to the selected target area of the slide.
2. Cover with an 18 mm x 18 mm cover glass and seal with rubber cement.
3. Place sealed slide on thermal cycler designed to perform denaturation and hybridization steps in slide-based FISH procedures (please see manufacturer's operating instructions).
4. Denature probe at 72ºC for 2 minutes and hybridize at 37ºC between 12-18 hours.
5. Remove cover glass and wash slides using the following conditions:
   5.1. Wash 1: 0.4x SSC/0.3% Nonident-P40 at 72ºC±1ºC for 2 minutes
   5.2. Wash 2: 2x SSC/0.1% Nonident-P40 at room temperature for 2 minutes
6. Apply 10 µl of a DAPI nuclear counterstain directly to the target area of the slide; cover area using a 24 mm x 50 mm cover glass.
7. Slides are ready for visualization using a fluorescent microscope.

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:
The optimum probe dilution and protocols for specific applications may vary. These include, but are not limited to; sample preparation, hybridization conditions and incubation times, post hybridization washes and microscope filter specifications and illumination conditions. The recommended hybridization times and wash conditions are for guidance only and it is the responsibility of the operator to determine optimal conditions. The clinical interpretation of any positive or

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negative hybridization events should be evaluated within the context of clinical presentation, morphological and/or cytogenetic criteria by a suitably qualified practitioner. These findings should be complemented by the use of appropriate controls and other diagnostic tests where appropriate.

Quality Control:
Fluorescence In-Situ Hybridization (FISH) Methods for Clinical Laboratories; Approved Guidelines – Second edition (MM07-A2). CLSI, Wayne, PA (www.clsi.org). 2013.

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

Troubleshooting:
Follow the FISH probe specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare Medical's Technical Support at 1-800-542-2002.

References:
1. Amplification of IGH/CCND1 fusion gene in a primary plasma cell leukemia case. Ishigaki T, Sasaki K, Watanabe K, Nakamura N, Toyota S, Kobayashi H, Tohda S. Cancer Genet Cytogenet. 2010 Aug;201(1):62-5.
2. t(14;18)(q32;q21) involving IGH and MALT1 is a frequent chromosomal aberration in MALT lymphoma. Streubel B, Lamprecht A, Dierlamm J, Cerroni L, Stolte M, Ott G, Raderer M, Chott A. Blood 2003; 101: 2335-2339.
3. Long-range oncogenic activation of Igh–c-myc translocations by the Igh 3′ regulatory region. Monica Gostissa, Catherine T. Yan, Julia M. Bianco, Michel Cogné, Eric Pinaud & Frederick W. Alt. Nature 462, 803-807 (10 December 2009)
4. Fonseca et al. (2004). Genetics and cytogenetics of multiple myeloma: A workshop report. Cancer Res. 64:1546.
5. 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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