

RUNX1T1 (8q21.3) Orange

FISH Probe
901-7317-070617

BIOCARE
M E D I C A L

Catalog Number: HFI7317A
Description: RUNX1T1 (8q21.3) Orange FISH Probe
Dilution: Ready-to-use
Volume: 100 µL

Intended Use:

For In Vitro Diagnostic Use.

RUNX1T1 (8q21.3) Orange FISH Probe is intended to hybridize to the 8q21.3 region on chromosome 8. 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.

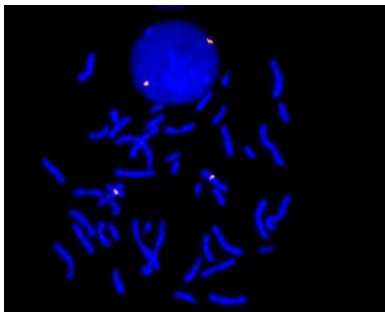
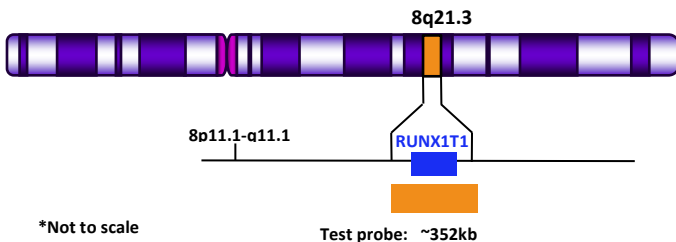
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Summary and Explanation:

The RUNX1T1 gene encodes a protein involved in regulating transcription and is known as the translocation partner 1 of RUNX1. The genomic rearrangements in the RUNX1-RUNX1T1 translocations are well documented and are clinically associated with Acute Myeloid Leukemia.^{1,2}

Principle of Procedure:

The RUNX1T1 (8q21.3) Probe is approximately 352 kb in size and is designed to provide coverage of the 8q21.3 region of chromosome 8.




RUNX1T1 (8q21.3) Orange 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.

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Rev: 062117

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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.

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 72°C for 2 minutes and hybridize at 37°C 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 72°C±1°C 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 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.

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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 water¹.
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. Håkon Reikvam, Kimberley Joanne Hatfield, Astrid Olsnes Kittang, Randi Hovland, and Øystein Bruserud, "Acute Myeloid Leukemia with the t(8;21) Translocation: Clinical Consequences and Biological Implications," Journal of Biomedicine and Biotechnology, vol. 2011, Article ID 104631, 23 pages, 2011. doi:10.1155/2011/104631
2. Lucena-Araujo, A.R., de Figueiredo-Pontes, L.L., de Oliveira, F.M. et al. Med Oncol (2012) 29: 1114. doi:10.1007/s12032-011-9890-3
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.