

ROS1 (6q22) Break Apart Orange/Green

FISH Probe
902-7038-050318

BIOCARE
M E D I C A L

Catalog Number: PFR7038A

Description: ROS1 (6q22) Break Apart FISH Probe
Orange/Green

Dilution: Ready-to-use

Volume: 100 µL

Intended Use:

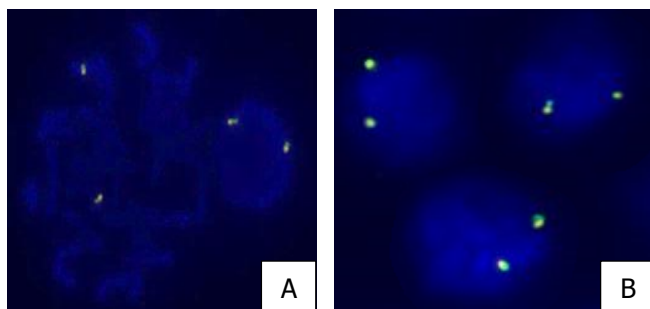
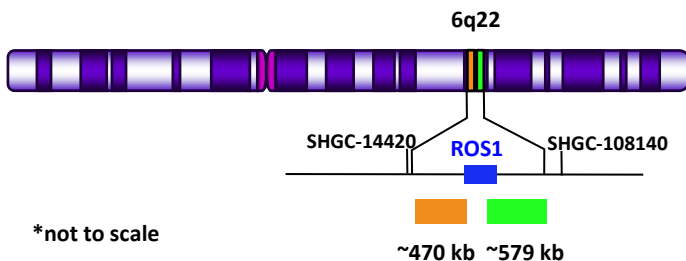
For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation

The ROS1 (6q22) Break Apart FISH probe is designed to detect a chromosomal rearrangement involving the ROS1 gene located on chromosome 6q22. The ROS1 gene encodes a tyrosine kinase receptor. Chromosomal rearrangements involving ROS1 have been implicated in multiple cancer indications^{1,2} and has been identified as an oncogenic driver in Non-small cell lung cancer³. Preclinical data indicates that tumors harboring this genetic rearrangement are sensitive to Crizotinib, a ROS1 kinase inhibitor¹.

Principle of Procedure:

The ~470 kb probe labeled in orange flanks the centromeric end of the ROS1 gene and the ~579 kb probe labeled in green flanks the telomeric end of the ROS1 gene. When the probe is hybridized to a normal cell it will show two orange/green (yellow) fusion signal patterns. A cell containing a rearrangement of the ROS1 gene may show one orange, one green (separated) and one orange/green (yellow) fusion signal.



(A) ROS1 (6q22) Break Apart (Orange/Green) FISH probe hybridized on normal blood sample. Interphase and metaphase cellular states are shown. (B) ROS1 (6q22) Break Apart (Orange/Green) FISH probe hybridized on lung 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 -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.

Technical Note:

Biocare Medical Break Apart 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	521
ORANGE	546	575

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 and fluorescent dyes that may be hazardous to your health. 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 contact with sensitive areas, wash with copious amounts of water⁴.

Technical Support:

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

References:

1. Bergethon, Kristin, Alice Shaw, Sai-Hong Ignatius Ou, Ryohei Katayama, Christine Lovly, Nerina McDonald, Pierre Massion, Christina Siwak-Tapp, Adriana Gonzalez, Rong Fang, Eugene Mark, Julie Batten, Haiquan Chen, Keith Wilner, Eunice Kwak, Jeffrey Clark, David Carbone, Hongbin Ji, and Jeffrey Engelman. "ROS1 Rearrangements Defines a Unique Molecular Class of Lung Cancers." *Journal of Clinical Oncology* (2012): 863-70.
2. Davies, Kurtis, Anh T. Le, Mariana Theodoro, Margaret Skokan, Dara Aisner, Eamon Berge, Luigi Terracciano, Federico Cappuzzo, Matteo Incarbone, Massimo Roncalli,

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Marco Alloisio, Armando Santoro, D.Ross Camidge, Marileila Varella-Garcia, and Robert Doebele. "Identifying and Targeting ROS1 Gene Fusion in Non-Small Cell Lung Cancer." *Human Cancer Biology* 18.17 (2012): 4570-579.

3. Stumpfova, M., and P. A. Janne. "Zeroing in on ROS1 Rearrangements in Non-Small Cell Lung Cancer." *Clinical Cancer Research* (2012): 4222-224.
4. 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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