

Kreatech™ FISH probes

Product Information Sheet

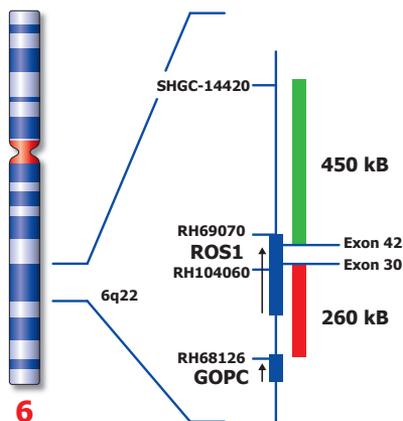
KBI-10752
ROS1 (6q22) Break



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Not to scale

Kreatech™ ROS1 (6q22) Break FISH probe

Introduction: Translocations involving the ROS1 (repressor of silencing 1) gene at chromosome 6q22 can increase expression of the gene by fusion with SLC34A2 (4p15), but also with other fusion partners. Elevated expression is observed in non-small cell lung cancer, where the success of tyrosine kinase-based therapeutics is based upon the activity of these fusion genes. The fusion of ROS1 to the GOPC (also known as FIG; 6q22) gene, by deletion of a 240 kb DNA fragment, also results in activation of a fusion gene.

Intended use: The **ROS1 (6q22) Break** FISH probe is optimized to detect translocations involving the ROS1 gene region at the 6q22 locus, as well as the 240 kb deletion forming the ROS1-GOPC fusion gene, in a dual-color assay on formalin-fixed paraffin-embedded tissue samples.

The probe is recommended to be used in combination with one of the Kreatech Pretreatment kits providing necessary reagents to perform FISH on various sample types for optimal results. (see also www.LeicaBiosystems.com and look for Kits & reagents)

Critical region 1 (red): The region distal to **ROS1 (6q22)** is direct-labeled with PlatinumBright™550.

Critical region 2 (green): The region proximal to **ROS1 (6q22)** is direct-labeled with PlatinumBright™495.

Reagent: Kreatech probes are direct-labeled DNA probes provided in a ready-to-use format. Apply 10 µl of probe to a sample area of approximately 22 x 22 mm.

Please refer to the Instructions for Use for the entire Kreatech FISH protocol.

Kreatech FISH probes are REPEAT-FREE™ and therefore do not contain Cot-1 DNA. Hybridization efficiency is increased and background, due to unspecific binding, is highly reduced.

Interpretation: The **ROS1 (6q22) Break** FISH probe is designed as a dual color probe to detect rearranged chromosomes 6. A split or break in case of a translocation at 6q22 results in a green/red or yellow fusion signal (F) splitting into separate red and green signals (1F1G1R). Only signals which are more than one signal diameter apart from each other are counted as a break. Deletions distal of the ROS1 gene will result in the absence of a red signal and thus show one normal fusion signal and one green signal (1F1G). Detectable deletions include the 240 kb deletion fusing the ROS1 to the GOPC gene. Co-localized green/red or yellow fusion signals identify the normal chromosome(s) 6 (2F). Signal patterns other than those described above may indicate variant translocations, deletions or amplifications on der(6) or other complex rearrangements. Investigators are advised to analyze metaphase cells for the interpretation of atypical signal patterns.

	Normal Signal Pattern	6q22 Break	Deletion distal of ROS1
Expected Signals	2F	1F1G1R	1F1G

References: Charest et al., Genes Chromosomes Cancer, 2003, 37: 58-71
 Rikova et al., Cell, 2007, 131: 1190-120
 Rimkunas et al., Clin. Can. Res., 2012, 18: 4449-4457
 Takeuchi et al., Nat. Med., 2012, 18: 378-381
 Gu et al., PLoS, 2011, 6: e15640

Warning and precautions: In case of emergencies check SDS sheets for medical advice. SDS sheets may be obtained by either contacting Leica Technical Support or visiting www.LeicaBiosystems.com. DNA probes contain formamide which is a teratogen; do not inhale or allow skin contact. Wear gloves and a lab coat when handling DNA probes. All materials should be disposed of according to your institution's guidelines for hospital waste disposal.

Reagent Storage and Handling: Store at 2-8 °C. Reagents should not be used after the expiration date on the vial label.

TECHNICAL SUPPORT Technical support is available at www.LeicaBiosystems.com or +31 20 6919181 or via e-mail: kreatech-support@leicabiosystems.com.

CUSTOMER SERVICE Kreatech probes may be ordered through Leica Customer Service +31 20 6919181 or order via e-mail: purchase.orders@leica-microsystems.com.