Kreatech™ FISH probes

Product Information Sheet

KBI-10210

5q- (5q31; 5q33) / TERT (5p15) Triple-Color

IVD

DANGER

FORMAMIDE

2°C 8°C

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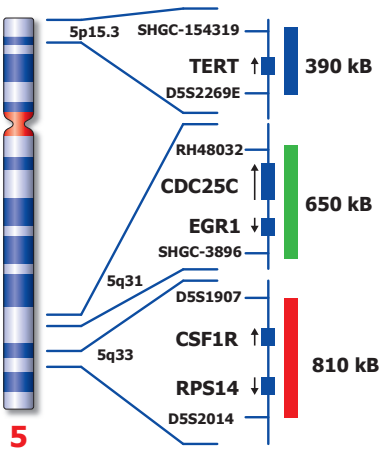

Not to scale

KBI-10210

Kreatech™ 5q- (5q31; 5q33) / TERT (5p15) Triple-Color FISH probe

Introduction:

Deletion of 5q (del(5q)) is a recurring abnormality in malignant myeloid diseases (mainly MDS and AML). Although the limits of 5q deletions vary among patients, two commonly deleted regions (CDR) have been identified; one within band 5q31 flanked by the gene IL9 and the marker D5S500, the second at 5q33 flanked by marker D5S413 and the gene GLRA1. Although both regions are deleted in the majority of 5q- patients in some cases the deletion is restricted either to the 5q31 or 5q33 region. So far, no consensus has been reached on the relationship between loss of individual genes within the indicated regions and progression of disease, although an important role has been suggested for EGR1, CDC25C and RPS14. The 5q- probe covers the EGR1 and CDC25C genes at 5q31 and the CSF1R and RPS14 genes at 5q33.

Intended use:

The **5q- (5q31; 5q33) / TERT (5p15) Triple-Color** FISH probe is optimized to detect copy numbers at the CDC25C/EGR1 gene region at 5q31 and the CSF1R/RPS14 gene region at 5q33 simultaneously. To facilitate recognition of chromosome 5 a control at 5p15 has been added resulting in a triple-color assay.

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 **5q33 (CSF1R/RPS14)** specific FISH probe is direct-labeled with Platinum*Bright*™550.
Critical region 2 (green): The **5q31 (CDC25C/EGR1)** specific FISH probe is direct-labeled with Platinum*Bright*™495.
Control region (blue): The **TERT (5p15)** specific FISH probe is direct-labeled with Platinum*Bright*™415

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 **5q- (5q31; 5q33) / TERT (5p15) Triple-Color** FISH probe is designed as a triple-color assay to detect deletions at 5q31 and 5q33. Deletions involving both critical regions at 5q31 and 5q33 will show loss of one red and one green signal (1R1G) and two blue signals for the TERT (5p15) control region. Deletions involving CSF1R/RPS14 gene region at 5q33 only will show one red signal, two green signals for the CDC25C/EGR1 region at 5q31 and two blue signals for the TERT (5p15) control region (1R2G2B). Deletions involving the CDC25C/EGR1 gene region at 5q31 only will show one green signal, two red signals for the CSF1R/RPS14 region at 5q33 and two blue signals for the TERT (5p15) control region (2R1G2B). Two single color red (R), green (G), and blue (B) signals will identify the normal chromosomes 5 (2R2G2B).

	Normal Signal Pattern	Del(5q31)(5q33)	Del(5q33)	Del(5q31)
Expected Signals	2R2G2B	1R1G2B	1R2G2B	2R1G2B

References:

Zhao N et al, PNAS, 94; 6948-6953
Boultwood J et al, 2002, Blood, 99; 4638-4641
Wang et al, Haematologica 2008; 93: 994-1000
Ebert BL et al, Nature 2008: 451: 335-339
Mohamedali A and Mufti GJ, Brit J Haematol 2008; 144: 157-168

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.