

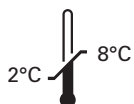
Kreatech™ FISH probes

Product Information Sheet

KBI-10406

CRLF2 (Xp22/Yp11) Break / IGH (14q32)

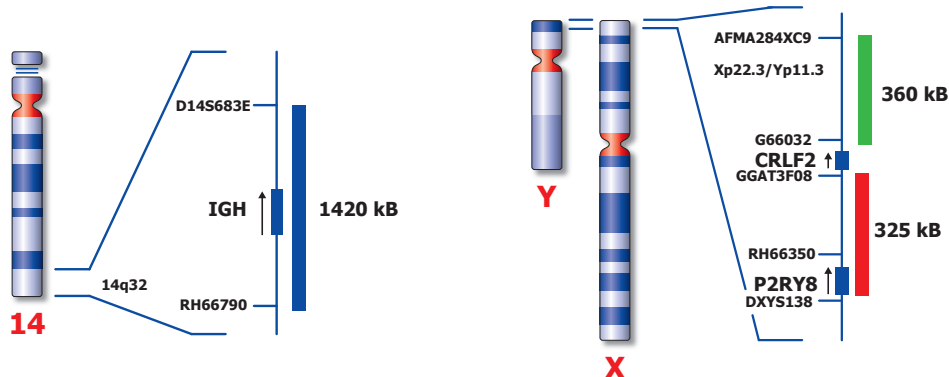
Fusion, Triple-Color



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Not to scale

Kreatech™ CRLF2 (Xp22/Yp11) Break / IGH (14q32) Fusion, Triple-Color FISH probe

Introduction: Rearrangement of the **CRLF2 (Xp22/Yp11)** gene is associated with poor outcome in pediatric B-progenitor and Down syndrome-associated acute lymphoblastic leukemia (ALL). **CRLF2-IGH** fusions between Xp22-14q32 or Yp11-14q32 results in a deregulated expression of the cytokine receptor gene (CRLF2). This can also be the result of the fusion with the P2RY8 promoter on Xp22 or Yp11. Gain of chromosome X has been observed in Down syndrome-associated ALL.

Intended use: The **CRLF2 (Xp22/Yp11) Break / IGH (14q32) Fusion Triple-Color (TC)** FISH probe is optimized to detect translocations involving the CRLF2 gene at region Xp22 and Yp11. The probe shows a break between red and green in case of a translocation with CRLF2 and IGH involvement. In case of a fusion with the P2RY8 gene on Xp22 or Yp11, one red probe is deleted. For confirmation of the fusion to the IGH gene, a blue probe covering this gene is added.

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 for more information).

Critical region 1 (red): The proximal **CRLF2 (Xp22/Yp11)** gene region probe is direct-labeled with PlatinumBright™ 550.

Critical region 2 (green): The distal **CRLF2 (Xp22/Yp11)** gene region probe is direct-labeled with PlatinumBright™ 495.

Critical probe 3 (blue): The **IGH (14q32)** gene region probe is direct-labeled with PlatinumBright™ 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 **CRLF2 (Xp22/Yp11) Break / IGH (14q32) Fusion, Triple-Color** FISH probe is designed as a triple-color break probe assay to detect rearrangements of CRLF2, as well as fusion to P2RY8 by deletion of one the red part of the probe. Fusion to IGH should show fusion signals in a pattern described below. The normal signal pattern shows 2RG fusion signals and two separate blue signals. An extra X-chromosome can be present and will influence the signal pattern. Other patterns than described here may occur due to the loss of a derivative chromosome.

	Normal Signal Pattern	Fusion to IGH	Fusion to P2RY8	Fusion to another partner
Expected Signals	2RG2B	1RG1B1RB1GB	1RG1G2B	1RG2B1R1G

References: Mullighan et al., 2009, Nat. Genet. 41(11): 1243-1246
Russell et al., 2009, Blood, 114(13): 2688-2698

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 formaldehyde 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.