Kreatech™ FISH probes

Product Information Sheet

KBI-10003

FIP1L1 / CHIC2 / PDGFRA (4q12) Deletion, Break

IVD

DANGER

FORMAMIDE

2°C 8°C

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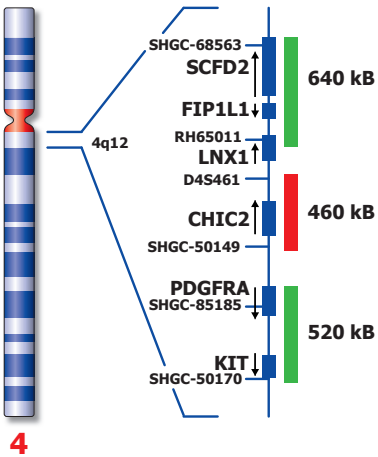
PI-KBI-10003_D1.1

Published March 2015



Not to scale

KBI-10003

Kreatech™ FIP1L1 / CHIC2 / PDGFRA (4q12) Deletion, Break FISH probe

Introduction:

The deletion of the CHIC2 locus generates a fusion FIP1L1-PDGFRA gene giving raise to a novel tyrosine kinase. This deletion has been observed in patients with idiophatic hypereosinophilic syndrome (HES), chronic eosinophilic leukemia (CEL), systemic mast cell disease, and chronic myeloproliferative disorders (CMPD).

Intended use:

The **FIP1L1 / CHIC2 / PDGFRA** FISH probe is optimized to detect the CHIC2 deletion at 4q12 associated with the FIP1L1/PDGFRA fusion in a dual-color, dual-fusion assay on metaphase/interphase spreads, blood smears and bone marrow cells. It also detects translocation involving the FIP1L1 and PDGFRA region.

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 **CHIC2 (4q12)** gene region is direct-labeled with Platinum*Bright*™550.
Critical region 2 (green): The **FIP1L1 (4q12)** gene region is direct-labeled with Platinum*Bright*™495.
Critical region 3 (green): The **PDGFRA (4q12)** gene region is direct-labeled with Platinum*Bright*™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 **FIP1L1 / CHIC2 / PDGFRA** FISH probe is designed as a deletion probe, where loss of the CHIC2 region is observed as loss of a red signal leaving a green signal at 4q12. The probe will split in the case of a translocation at 4q12 resulting in a break of one fusion signal, observed as a 2F1G signal pattern. Single color fusion (F) signals will identify the normal chromosomes 4.

Signal patterns other than those described above may indicate variant translocations or other complex rearrangements, such as hyperdiploidy for chromosome 4. Investigators are advised to analyze metaphase cells or use additional probes for the interpretation of atypical signal patterns.

	Normal Signal Pattern	Del(4q12)	Translocation at 4q12	Translocation + Deletion at 4q12
Expected Signals	2F	1F1G	2F1G	1F2G

***** hyperdiploidy for Chromosome 4 has to be verified for this signal constellation

References:

Cools et al, N Engl J Med, 2003, 348, 1201-1214.
Gotlib et al, Blood, 2004, 103, 2879-2891.

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.