

Kreatech™ FISH probes

Product Information Sheet

KBI-10309

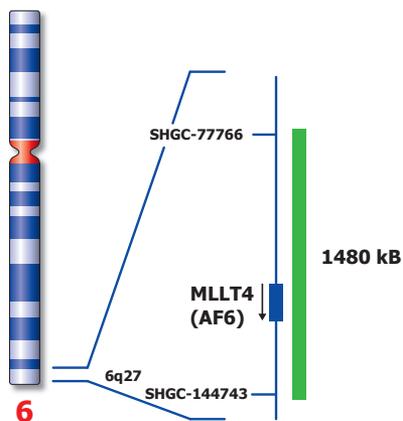
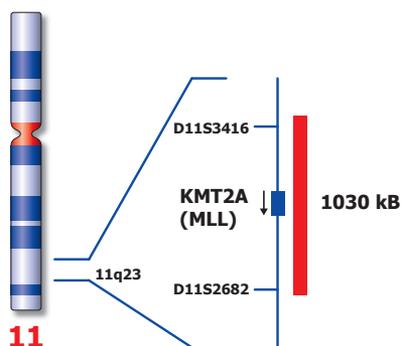
KMT2A/MLLT4 t(6;11) Fusion



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Not to scale

Kreatech™ KMT2A/MLLT4 t(6;11) Fusion FISH probe

Introduction: One of the relatively frequently observed translocations in human Acute Myeloid Leukemia (AML) involves the genes KMT2A (previously known as MLL) and MLLT4 (aka AF6) at 11q23 and 6q27. The KMT2A/MLLT4 translocation results in the generation of fusion protein that retains the KMT2A N-terminus, including both an A-T hook domain and a region similar to mammalian DNA methyltransferase. The breakpoint region of the MLLT4 gene is located within intron 1 and downstream of the initiation codon. In all age groups and all phenotypes of leukemia, the KMT2A/MLLT4 translocation carries a poor prognosis.

Intended use: The **KMT2A/MLLT4 t(6;11) Fusion** FISH probe is optimized to detect translocations involving the KMT2A and MLLT4 gene regions at 11q23 and 6q27 in a dual-color, fusion assay on metaphase/interphase spreads, blood smears and bone marrow cells.

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 **KMT2A (11q23)** gene region probe is direct-labeled with PlatinumBright™550.
Critical region 2 (green): The **MLLT4 (6q27)** gene region probe 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 **KMT2A/MLLT4 t(6;11) Fusion** FISH probe is designed as a dual fusion probe to detect both rearranged chromosomes der(11) and der(6) by two co-localized red/green or yellow fusion signals (F). Only red and green signals which are less than one signal diameter apart from each other are counted as a fusion. Separate red and green signals identify the normal chromosome(s) 11 and 6 (2R2G). Translocations involving only the KMT2A region at 11q23 without the MLLT4 gene region as a fusion partner are seen as a gain of red signal by breaking of one of the red signals (3R2G).

Signal patterns other than those described above may indicate variant translocations or other complex rearrangements. Investigators are advised to analyze metaphase cells for the interpretation of atypical signal patterns.

	Normal Signal Pattern	Translocation involving KMT2A and MLLT4	Translocation involving KMT2A without MLLT4
Expected Signals	2R2G	2F1R1G	3R2G

References: Mitterbauer-Hohdanner G et al, 2004, Eur J Clin Invest, 34; 12-24
 Meyer C et al, 2009, Leukemia, 23; 1490-1499

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.