Kreatech™ FISH probes

Product Information Sheet

KBI-10205

MECOM t(3;3); inv(3) (3q26) Break, Triple-Color

IVD

DANGER

FORMAMIDE

2°C 8°C

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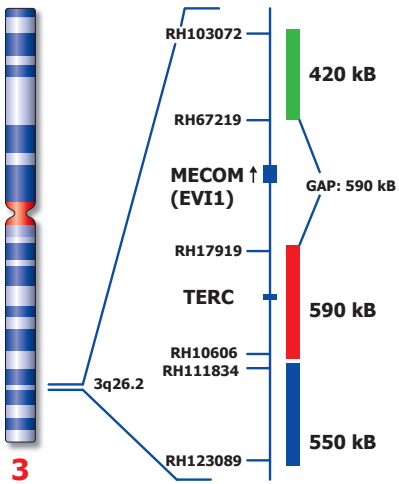

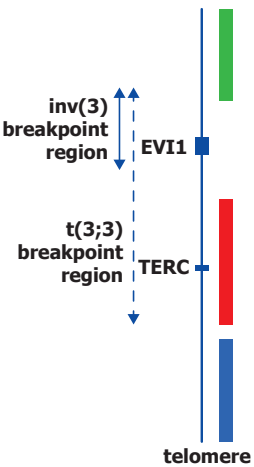

Not to scale

KBI-10205

Kreatech™ MECOM t(3;3); inv(3) (3q26) Break, Triple-Color FISH probe

Introduction:

The pericentric inversion of chromosome 3 and the t(3;3)(q21;q26) are two recurrent bone marrow aberrations in patients with malignant myeloid diseases (i.e., MDS and AML). The latest WHO classification has assigned both rearrangements to a distinct AML subgroup associated with poor prognosis. In MDS or CMML, both the inversion and the translocation are considered markers for aggressive disease with a high risk of progression to AML. The POSEIDON triple-color break assay allows specific detection of multiple known breakpoints involved in t(3;3), inv(3) and associated translocations.

Intended use:

The **MECOM t(3;3); inv(3) (3q26) Break, Triple-Color** FISH probe is optimized to detect the inversion of chromosome 3 involving the MECOM (previously known as EVI1) gene region at 3q26 in a triple-color, split 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 **distal MECOM** gene region probe is direct-labeled with Platinum*Bright*™550.
Critical region 2 (green): The **proximal MECOM** gene region probe is direct-labeled with Platinum*Bright*™495.
Critical region 3 (blue): The **further distal MECOM** gene region 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.

Interpretations:

The **MECOM t(3;3); inv(3) (3q26) Break, Triple-Color** FISH probe is designed as a triple-color split probe to detect inversion or translocations at the MECOM gene region at 3q26. A break is defined as a blue/red/green fusion signal (BRG) splitting into separate blue/red (BR) and green (G) or blue (B) and red/green (RG) signals. Only signals which are more than one signal diameter apart from each other are counted as a break. Two co-localized blue/red/green signals identify the normal chromosome(s) 3.

	Normal Signal Pattern	t(3;3), inv(3)	Variant breakpoints*
Expected Signals	2BRG	1BRG1BR1G	1BRG1BRg1g or 1BRG1Gr1Br or 1BRG1B1RG

*) Variant breakpoints for the inv(3) may occur within a relatively large region (see figure on the right). Breakpoints proximal of the MECOM gene will result in a split of the green signal (1BRG1BRg1g). The green probe is located more proximally compared to the dual-color MECOM probe (KI-10204), to minimize the chance of a split green signal. The breakpoints for t(3;3) are located distal to the MECOM gene and may result in a break within the red probe (1BRG1Br1Gr). Breaks occurring distally of the red probe will result in a separate blue signal (1BRG1B1RG). Signal patterns other than those described above may indicate variant translocations, insertions or other complex rearrangements. Investigators are advised to analyze metaphase cells for the interpretation of atypical signal patterns.

References:

De Braekeleer et al, 2011, Anticancer Res, 31; 3441-3448;
Cui W. et al, 2011, Am J Clin Pathol, 136; 282-288
De Melo V. et al, 2007, Leukemia aop, 13 Sep, 1-4
Levy E. et al, 1994, Blood, 83; 1348-1354
Wieser R et al, 2003, Haematologica, 88; 25-30
Shearer B. et al, 2010, Am J Hematol, 85:569-574

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.