

# Kreatech™ FISH probes

## Product Information Sheet

KBI-10204

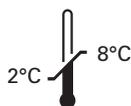
MECOM t(3;3); inv(3) (3q26) Break

**IVD**

**DANGER**



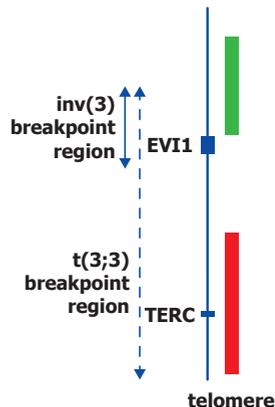
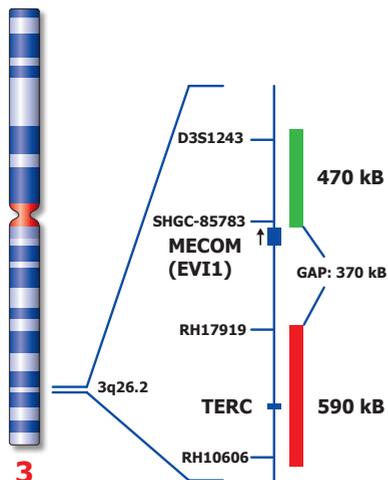
**FORMAMIDE**



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## Kreatech™ MECOM t(3;3); inv(3) (3q26) Break 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.

**Intended use:** The **MECOM t(3;3); inv(3) (3q26)** Break FISH probe is optimized to detect the inversion of chromosome 3 involving the MECOM (previously known as EVI1) gene region at 3q26 in a dual-color, split 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](http://www.LeicaBiosystems.com) and look for Kits & reagents)

**Critical region 1 (green):** The **proximal MECOM** gene region probe is direct-labeled with PlatinumBright™495.  
**Critical region 2 (red):** The **distal MECOM** gene region probe is direct-labeled with PlatinumBright™550.

**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 **MECOM t(3;3); inv(3) (3q26)** Break FISH probe is designed as a dual-color split probe to detect inversions or translocations at the MECOM gene region at 3q26. A break is defined when a red/green or yellow fusion signal (RG) splits into separate red and green signals. Only red and green signals which are more than one signal diameter apart from each other are counted as a break. Colocalized red/green or yellow signals identify the normal chromosome(s) 3.

|                  | Normal Signal Pattern | t(3;3), inv(3) | Variant breakpoints*        |
|------------------|-----------------------|----------------|-----------------------------|
| Expected Signals | 2RG                   | 1RG1R1G        | 1RG1Rg1g or 1RG1r1rG or 1RG |

\*) 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 (1RG1Rg1g). The breakpoints for the t(3;3) are located more distally and will result in a normal break pattern (1RG1R1G). However, also breaks within the red probe area, which will result in a split of the red signal (1RG1r1rG) and breaks distal to the red probe (2RG) have been described. For detection of these breaks we recommend using the MECOM triple color probe (KI-10205).

**Limitations:** 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 | Shearer B. et al, 2010, Am J Hematol, 85:569-574  |
| 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    |

**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](http://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](http://www.LeicaBiosystems.com) or +31 20 6919181 or via e-mail: [kreatech-support@leicabiosystems.com](mailto: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](http://purchase.orders@leica-microsystems.com).