

# Kreatech™ FISH probes

## Product Information Sheet

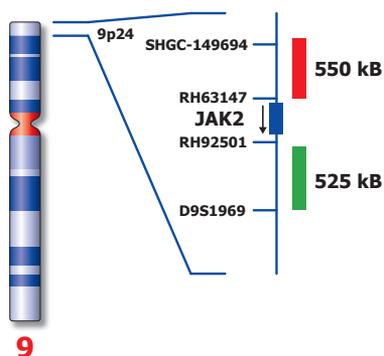
KBI-10012  
JAK2 (9p24) Break



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Not to scale

## Kreatech™ JAK2 (9p24) Break FISH probe

**Introduction:** Janus Kinase 2 (**JAK2**) is a tyrosine kinase involved in cytokine signaling. Mutations and translocations involving the JAK2 gene region are observed in myeloproliferative neoplasms. The common JAK2617V>F point mutation and translocations results in constitutive activation of JAK2. Translocations are described with the following fusion partners: PCM1, BCR, ETV6 (TEL), SSBP2 and 3q21. Patients with the JAK2617V>F point mutation can also exhibit a numerical gain of the gene.

**Intended use:** The **JAK2 (9p24) Break** FISH probe is optimized to detect translocations involving the JAK2 gene region at region 9p24 in a dual-color, split assay on metaphase/interphase spreads. The JAK2 (9p24) Break FISH probe can not be used to detect point mutations, nor has it been optimized to detect gene amplifications.

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 (red):** The **distal JAK2** gene region probe is direct-labeled with PlatinumBright™550.  
**Critical region 2 (green):** The **proximal JAK2** 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 **JAK2 (9p24) Break** FISH probe is designed as a dual-color break probe to detect translocations at 9p24. A break is defined as a red/green or yellow fusion signal (F) splits into separate red and green signals. Only red and green signals more than one signal diameter apart from each other are counted as a break. Co-localized red/green or yellow signals identify the normal chromosome(s) 9 (2F). Signal patterns other than those described above may indicate variant translocations, complex rearrangements or numerical gains. Investigators are advised to analyze metaphase cells for the interpretation of atypical signal patterns.

	Normal Signal pattern	9p24 Translocation
Expected Signals	2F	1F1R1G

**References:** Najfeld V et al, 2007, Exp Hematol, 35, 1668-1676  
 Smith C et al, 2008, Hum Pathol, 39, 795-810  
 Poltras J et al, 2008, Genes Chromosomes Cancer, 47, 884-889

**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 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](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](mailto:purchase.orders@leica-microsystems.com).