

# Kreatech™ FISH probes

## Product Information Sheet

KBI-40003

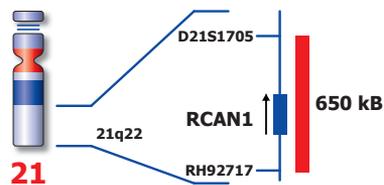
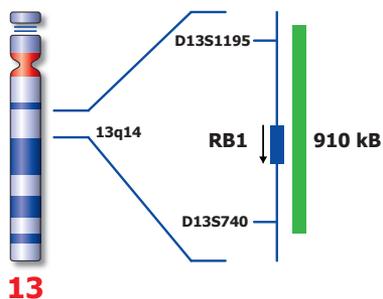
RB1 (13q14)/RCAN1 (21q22)



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PI-KBI-40003\_D1.1

Published March 2015



Not to scale

## Kreatech™ RB1 (13q14)/RCAN1 (21q22) FISH probe

### Introduction:

Trisomy 21 is one of the most common chromosomal abnormalities in live born children and causes Down syndrome, a particular combination of phenotypic features that includes mental retardation and characteristic facies. Molecular analysis has revealed that the 21q22.1-q22.3 region appears to contain the gene(s) responsible for the congenital heart disease observed in Down syndrome. Trisomy 13, also called Patau syndrome, is a chromosomal condition that is associated with severe mental retardation and certain physical abnormalities. The critical region has been reported to include 13q14-13q32 with variable expression, gene interactions, or interchromosomal effects.

### Intended use:

The **RCAN1 (21q22)** specific FISH probe is optimized to detect copy numbers of chromosome 21 at 21q22 on uncultured amniotic cells. The **RB1 (13q14)** specific FISH probe is optimized to detect copy numbers of chromosome 13 at 13q14 on uncultured amniotic cells.

**This FISH assay will not detect the presence of structural chromosome abnormalities that can also result in birth defects**

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 **21q22 specific** FISH probe is direct-labeled with PlatinumBright™550.

### Critical region 2 (green):

The **13q14 specific** FISH 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 **RB1 (13q14)/RCAN1 (21q22)** FISH probe is designed as a dual-color assay to detect gains of chromosome 21 and 13. Trisomy 21 will be detected by three red signals at the 21q22 region and two green signals for chromosome 13 (3R2G). Trisomy 13 will be detected by 3 green signals at the 13q14 region and two red signals for chromosome 21 (2R3G). Two single color red (R) and green (G) signals will identify the normal chromosomes 13 and 21 (2R2G).

	Normal Signal Pattern	Trisomy 21	Trisomy 13
Expected Signals	2R2G	3R2G	2R3G

### References:

Korenberg J. et al, 1994, Proc. Nat. Acad. Sci. 91; 4997-5001  
 Spathas D et al, 1994, Prenat Diagn. 14(11); 1049-1054  
 Tepperberg et al, 2001, Prenat Diagn 21(4); 293-301

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