

ZytoLight® SPEC TFG Dual Color Break Apart Probe



Background

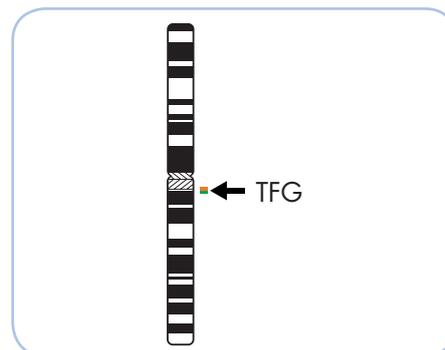
The ZytoLight® SPEC TFG Dual Color Break Apart Probe is designed to detect translocations involving the chromosomal region 3q12.2 harboring the TFG (TRK-fused gene; a.k.a. TRCK fusion gene) gene. Initially, TFG was identified as a fusion partner of the protein kinases NTRK1 in papillary thyroid carcinoma and NR4A3 (a.k.a. NOR1) in extraskeletal myxoid chondrosarcoma generating the oncogenes TRK-T3 and TFG-NR4A3, respectively. The TFG gene has been found to be a fusion partner of the ALK gene, first identified in anaplastic large cell lymphomas (ALCL). However, the TFG-ALK fusion transcript was also found in non-small cell lung cancer (NSCLC). TFG is a ubiquitously expressed regulator of protein secretion. The translocation t(2;3)(p23;q12) results in the fusion of the first domains of TFG including the coiled-coil domain to the tyrosine kinase domain of ALK. It was shown that the aberrant TFG-ALK fusion transcript has transforming activity. Fluorescence *in situ* Hybridization could be used to determine the specific translocation partners of the ALK gene e.g. in NSCLC.

References

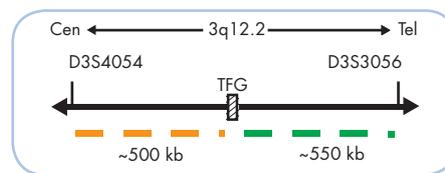
- Greco A, et al. (1995) Mol Cell Biol 15: 6118-27.
 Hernández L, et al. (2002) Am J Pathol 160: 1487-94.
 Hisaoka M, et al. (2004) Genes Chromosomes Cancer 40: 325-8.
 Rikova K, et al. (2007) Cell 131: 1190-203.
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Probe Description

The SPEC TFG Dual Color Break Apart Probe is a mixture of two clone contigs hybridizing to the 3q12.2 band. The orange fluorochrome direct labeled probe hybridizes proximal to the TFG gene and the green fluorochrome direct labeled probe hybridizes distal to that gene.



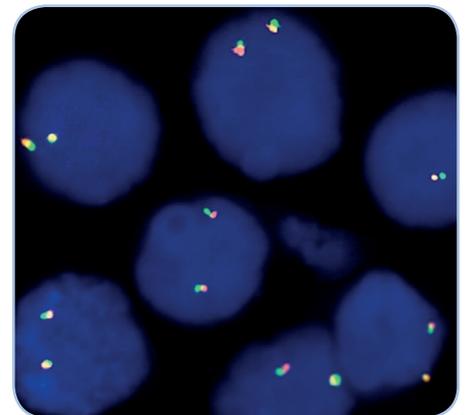
Ideogram of chromosome 3 indicating the hybridization locations.



SPEC TFG Probe map (not to scale).

Results

In an interphase nucleus lacking a translocation involving the 3q12.2 band, two orange/green fusion signals are expected representing two normal (non-rearranged) 3q12.2 loci. A signal pattern consisting of one orange/green fusion signal, one orange signal, and a separate green signal indicates one normal 3q12.2 locus and one 3q12.2 locus affected by a translocation.



SPEC TFG Dual Color Break Apart Probe hybridized to normal interphase cells as indicated by two orange/green fusion signals per nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2133-50	ZytoLight® SPEC TFG Dual Color Break Apart Probe CE IVD	●/●	5 (50 µl)
Related Products			
Z-2028-5	ZytoLight® FISH-Tissue Implementation Kit CE IVD		5
Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1ml; Wash Buffer SSC, 150 ml; 25x Wash Buffer A, 50 ml; DAPI Antifade-Solution, 0.2 ml			

* Using 10 µl probe solution per test. CE IVD only available in certain countries. All other countries research use only! Please contact your local dealer for more information.