

ZytoLight® SPEC NTRK1 Dual Color Break Apart Probe



Background

The ZytoLight® SPEC NTRK1 Dual Color Break Apart Probe (PL123) is intended to be used for the qualitative detection of translocations involving the human NTRK1 gene at 1q23.1 in formalin-fixed, paraffin-embedded specimens by fluorescence *in situ* hybridization (FISH). The probe is intended to be used in combination with the ZytoLight® FISH-Tissue Implementation Kit (Prod. No. Z-2028-5/-20).

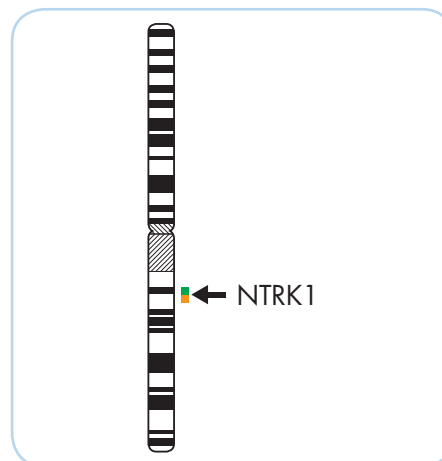
The product is intended for professional use only. All tests using the product should be performed in a certified, licensed anatomic pathology laboratory under the supervision of a pathologist/human geneticist by qualified personnel.

The probe is intended to be used as an aid to the differential diagnosis of various cancers and therapeutic measures should not be initiated based on the test result alone.

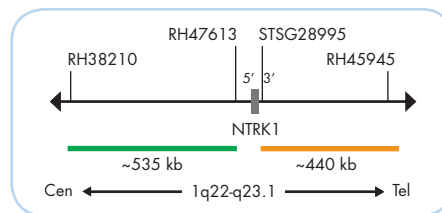
Probe Description

The ZytoLight® SPEC NTRK1 Dual Color Break Apart Probe is composed of:

- ZyGreen (excitation 503 nm/emission 528 nm) labeled polynucleotides (~10 ng/µl), which target sequences mapping in 1q22-q23.1** (chr1:156,245,849-156,781,745) proximal to the NTRK1 breakpoint region.
- ZyOrange (excitation 547 nm/emission 572 nm) labeled polynucleotides (~4.5 ng/µl), which target sequences mapping in 1q23.1** (chr1:156,854,527-157,296,918) distal to the NTRK1 breakpoint region.
- Formamide based hybridization buffer



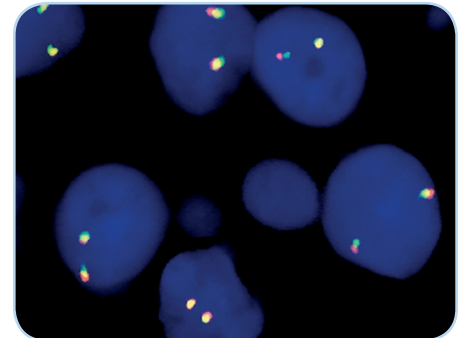
Ideogram of chromosome 1 indicating the hybridization locations.



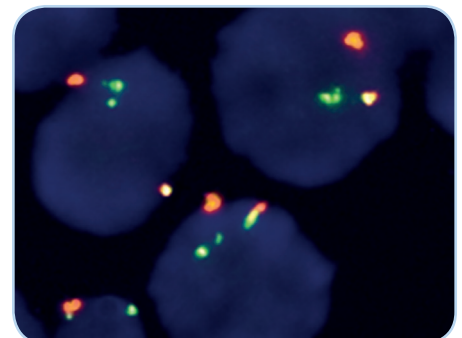
SPEC NTRK1 Probe map (not to scale).

Results

In an interphase nucleus lacking a translocation involving the 1q22-q23.1 band, two orange/green fusion signals are expected representing two normal (non-rearranged) 1q22-q23.1 loci. A signal pattern consisting of one orange/green fusion signal, one orange signal, and a separate green signal indicates one normal 1q22-q23.1 locus and one 1q22-q23.1 locus affected by a translocation. Isolated orange signals are the result of deletions proximal to the NTRK1 breakpoint region or are due to unbalanced translocations affecting this chromosomal region.



SPEC NTRK1 Dual Color Break Apart Probe hybridized to normal interphase cells as indicated by two orange/green fusion signals per nucleus.



Example of an aberrant signal pattern: Lung cancer tissue section with translocation of the NTRK1 gene as indicated by one non-rearranged orange/green fusion signal, one orange and one separate green signal.

Image kindly provided by Prof. Büttner, Cologne, Germany.

Prod. No.	Product	Label	Tests* (Volume)
Z-2167-50	ZytoLight SPEC NTRK1 Dual Color Break Apart Probe		5 (50 µl)
Z-2167-200	ZytoLight SPEC NTRK1 Dual Color Break Apart Probe		20 (200 µl)
Related Products			
Z-2028-5	ZytoLight FISH-Tissue Implementation Kit		5
Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 210 ml; 25x Wash Buffer A, 50 ml; DAPI/DuraTect-Solution, 0.2 ml			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit		20
Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 560 ml; 25x Wash Buffer A, 100 ml; DAPI/DuraTect-Solution, 0.8 ml			

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

**According to Human Genome Assembly GRCh37/hg19