ZytoLight® SPEC VEGFA/CEN 6 Dual Color Probe

Intended Purpose

The ZytoLight SPEC VEGFA/CEN 6 Dual Color Probe (PL153) is intended to be used for the qualitative detection of amplifications involving the human VEGFA gene as well as the detection of chromosome 6 alpha satellites 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).

Probe Description

The ZytoLight SPEC VEGFA/CEN 6 Dual Color Probe is composed of:

- ZyGreen (excitation 503 nm/emission 528 nm) labeled polynucleotides (~10 ng/µl), which target sequences mapping in 6p21.1* (chr6:43,633,271-43,985,142) harboring the VEGFA gene region (see Fig. 1).
- ZyOrange (excitation 547 nm/emission 572 nm) labeled polynucleotides (~1,5 ng/µl), which target sequences mapping in 6p11.1-q11 specific for the alpha satellite centromeric region D6Z1 of chromosome 6.
- Formamide based hybridization buffer

* according to Human Genome Assembly GRCh37/hg19

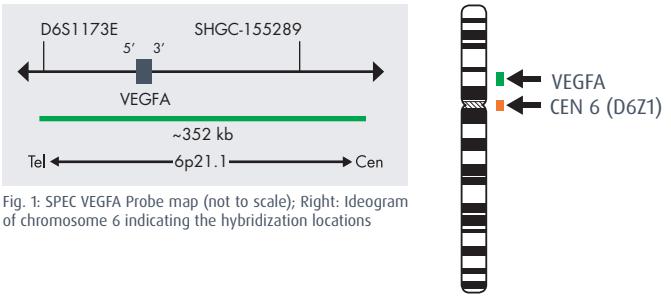
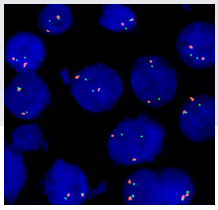


Fig. 1: SPEC VEGFA Probe map (not to scale); Right: Ideogram of chromosome 6 indicating the hybridization locations

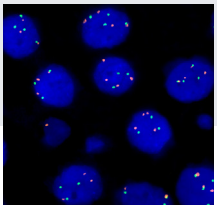
Results

Normal situation: In interphases of normal cells or cells without an amplification involving the VEGFA gene region, two green and two orange signals appear.

Aberrant situation: In cells with an amplification of the VEGFA gene region, an increased number of green signals or green signal clusters will be observed.



Hybridized to normal interphase calls as indicated by two orange and two green signals in each nucleus.



Example of an aberrant signal pattern: HCC tissue section with interphase cells showing a polysomy of chromosome 6 as indicated by multiple green (VEGFA) and orange (CEN 6) signals in each nucleus.

Labels	Chromosome	Reg. Status	Tests	Order No.
●|●	6	RUO	20 (200 µl)	**Z-2195-200**

ZytoLight® SPEC ROS1 Dual Color Break Apart Probe

Intended Purpose

The ZytoLight SPEC ROS1 Dual Color Break Apart Probe (PL101) is intended to be used for the qualitative detection of translocations involving the human ROS1 gene at 6q22.1 in formalin-fixed, paraffin-embedded specimens, such as non-small cell lung cancer (NSCLC), 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 NSCLC and therapeutic measures should not be initiated based on the test result alone.

Probe Description

The ZytoLight SPEC ROS1 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 6q22.1* (chr6:116,912,298-117,627,255) proximal to the ROS1 breakpoint region (see Fig. 1).
- ZyOrange (excitation 547 nm/emission 572 nm) labeled polynucleotides (~4,5 ng/µl), which target sequences mapping in 6q22.1* (chr6:117,659,135-117,871,701) distal to the ROS1 breakpoint region (see Fig. 1).
- Formamide based hybridization buffer

* according to Human Genome Assembly GRCh37/hg19

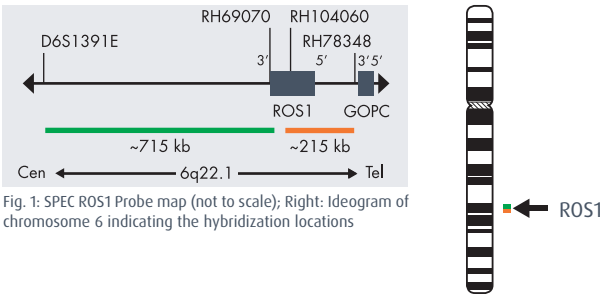
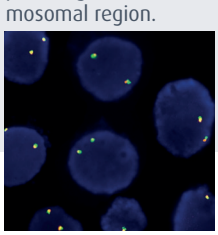


Fig. 1: SPEC ROS1 Probe map (not to scale); Right: Ideogram of chromosome 6 indicating the hybridization locations

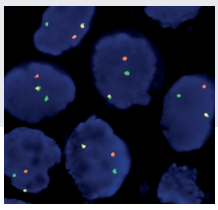
Results

Normal situation: In interphases of normal cells or cells without a translocation involving the ROS1 gene region, two green/orange fusion signals appear.

Aberrant situation: One ROS1 gene region affected by a translocation is indicated by one separate green signal and one separate orange signal. Isolated green signals are the result of deletions distal to the ROS1 breakpoint region or are due to unbalanced translocations affecting this chromosomal region.



Hybridized to normal interphase cells as indicated by two orange/green fusion signals per nucleus.



Section of paraffin-embedded NSCLC cell line with translocation affecting the 6q22.1 locus harboring ROS1 as indicated by one orange/ green fusion signal (non-rearranged), one orange signal, and one separate green signal.

Labels	Chromosome	Reg. Status	Tests	Order No.
●|●	6	CE/IVD	5 (50 µl)	**Z-2144-50**
			20 (200 µl)	**Z-2144-200**