

## ZytoLight® SPEC FOXO1/PAX3 Dual Color Single Fusion Probe

Previously: ZytoLight RMS I Probe SPEC t(2;13) Dual Color Fusion Probe

## ZytoLight® SPEC FOXO1/PAX7 Dual Color Single Fusion Probe

Previously: ZytoLight RMS II Probe SPEC t(1;13) Dual Color Fusion Probe

### Background

The ZytoLight® SPEC FOXO1/PAX3 Dual Color Single Fusion Probe and SPEC FOXO1/PAX7 Dual Color Single Fusion Probe are designed to detect translocations t(2;13)(q36;q14.1) and t(1;13)(p36.1;q14.1) in alveolar rhabdomyosarcomas. Among solid tumors of the childhood, rhabdomyosarcoma is the most common soft tissue sarcoma. Rhabdomyosarcomas are classified in two main categories: embryonal and alveolar rhabdomyosarcoma. The alveolar histology is associated with a poorer prognosis. Alveolar rhabdomyosarcoma is characterized by two tumor-specific translocations, i.e., t(2;13)(q36;q14.1) and t(1;13)(p36.1;q14.1) which are detectable in most cases of alveolar rhabdomyosarcomas.

The translocations and their fusion genes represent highly specific genetic markers useful in the diagnosis of alveolar rhabdomyosarcomas.

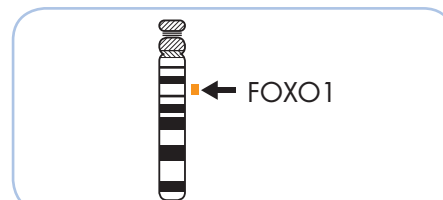
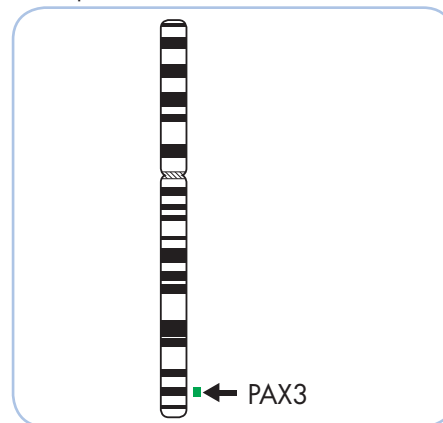
Correlations between the type of translocation and clinical features as e.g. longer disease-free survival have been identified.

### References

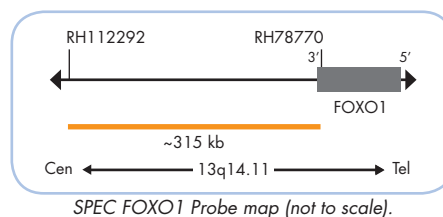
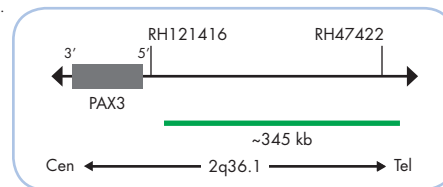
Dal Cin P, et al. (1991) Cancer Genet Cytogenet 55: 191-5.  
Douglass EC, et al. (1991) Genes Chromosomes Cancer 3: 480-2.  
Gunawan B, et al. (1999) Pathol Oncol Res 5: 211-3.  
Rekhi B, et al. (2014) Pathol Res Pract 210: 328-33.  
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### Probe Description

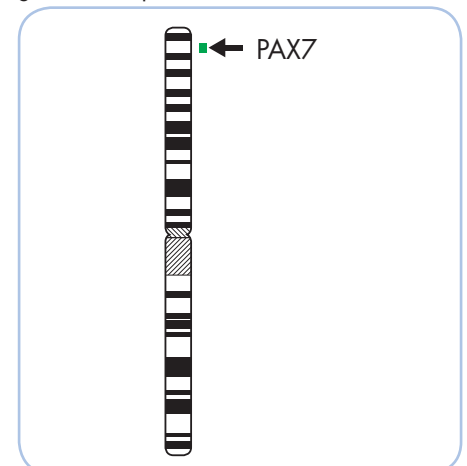
The SPEC FOXO1/PAX3 Dual Color Single Fusion Probe is a mixture of two direct labeled probes hybridizing to the 2q36.1 and 13q14.11 band. The green fluorochrome direct labeled probe hybridizes distal to the PAX3 gene at 2q36.1, the orange fluorochrome direct labeled probe hybridizes proximal to the FOXO1 gene at 13q14.11.



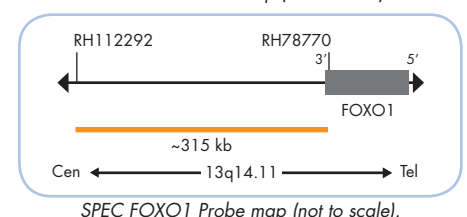
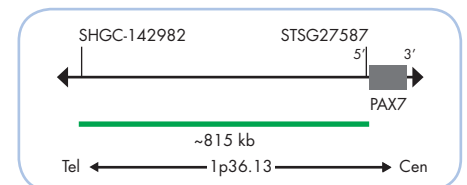
Ideograms of chromosomes 2 (above) and 13 (below) indicating the hybridization locations.



The SPEC FOXO1/PAX7 Dual Color Single Fusion Probe is a mixture of two direct labeled probes hybridizing to the 1p36.13 and 13q14.11 band. The green fluorochrome direct labeled probe hybridizes distal to the PAX7 gene at 1p36.13, the orange fluorochrome direct labeled probe hybridizes proximal to the FOXO1 gene at 13q14.11.

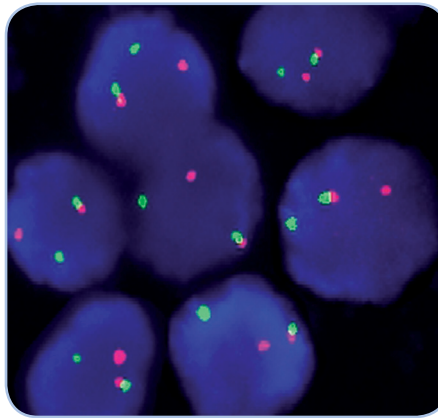


Ideograms of chromosomes 1 (above) and 13 (below) indicating the hybridization locations.

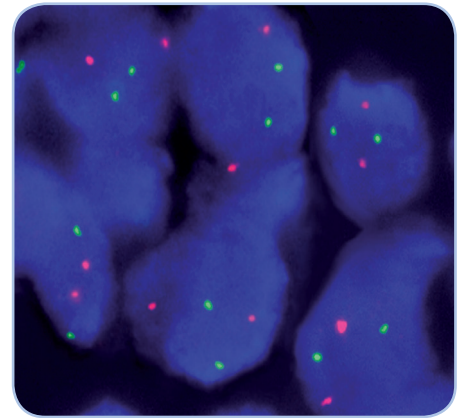


**Results**

In an interphase nucleus lacking the t(1;13) or t(2;13), respectively, two orange and two green signals are expected. In a cell harboring the t(1;13) or t(2;13), respectively, one orange signal, one green signal, and one orange/green fusion signal will be observed.



SPEC FOXO1/PAX3 Dual Color Single Fusion Probe hybridized to abnormal nuclei harboring a t(2;13)(q35;q14) as indicated by one orange, one green, and one orange/green fusion signal.



SPEC FOXO1/PAX7 Dual Color Single Fusion Probe hybridized to normal interphase cells as indicated by two orange and two green signals.

Prod. No.	Product	Label	Tests* (Volume)
Z-2018-50	ZytoLight SPEC FOXO1/PAX3 Dual Color Single Fusion Probe CE IVD	●/●	5 (50 µl)
Z-2018-200	ZytoLight SPEC FOXO1/PAX3 Dual Color Single Fusion Probe CE IVD	●/●	20 (200 µl)
Z-2019-50	ZytoLight SPEC FOXO1/PAX7 Dual Color Single Fusion Probe CE IVD	●/●	5 (50 µl)
Z-2019-200	ZytoLight SPEC FOXO1/PAX7 Dual Color Single Fusion Probe CE IVD	●/●	20 (200 µl)
<b>Related Products</b>			
Z-2028-5	ZytoLight FISH-Tissue Implementation Kit CE IVD Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 150 ml; 25x Wash Buffer A, 50 ml; DAPI/DuraTect-Solution, 0.2 ml		5
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit CE IVD Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 500 ml; 25x Wash Buffer A, 100 ml; DAPI/DuraTect-Solution, 0.8 ml		20

\* 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.