ZytoLight® SPEC ETV1/CEN 7 Dual Color Probe

CE IVD

Background

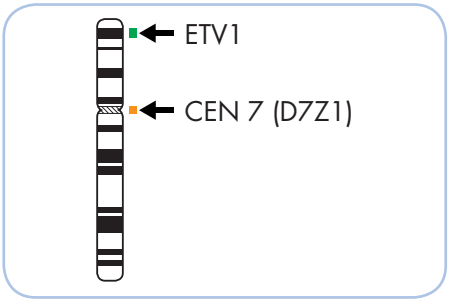
The ZytoLight® SPEC ETV1/CEN 7 Dual Color Probe is designed for the detection of ETV1 gene amplifications observed e.g. in melanoma.

The ETV1 (ETS translocation variant 1, a.k.a. ER81) gene is located on chromosome 7p21.2 and encodes an ETS (E26 transformation-specific) transcription factor. The gene was first identified as a fusion partner of the EWS gene in Ewing's sarcoma. Moreover, it was frequently found to be fused to TMPRSS2 (transmembrane protease, serine 2) in prostate cancer. ETV1 amplification or copy number gain of chromosome 7p was detected in melanoma, lung adenocarcinoma of never smokers, and pleomorphic liposarcoma. In melanoma, more than 40% of the cases show amplification or copy number gain of the ETV1 locus. As ectopic ETV1 overexpression in the context of aberrant MAP kinase pathway activation was found to transform immortalized human melanocytes, it was suggested that ETV1 acts as a melanoma oncogene.

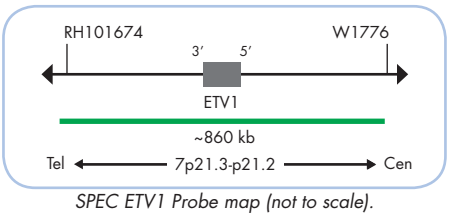
References
Jané-Valbuena J, et al. (2010) Cancer Res 70: 2075-84.
Jeon IS, et al. (1995) Oncogene 10: 1229-34.
Job B, et al. (2010) PLoS One 5: e15145.
Taylor BS, et al. (2008) PLoS One 3: e3179.

Probe Description

The SPEC ETV1/CEN 7 Dual Color Probe is a mixture of a green fluorochrome direct labeled SPEC ETV1 probe specific for the chromosomal region 7p21.2-p21.3 harboring the ETV1 gene and an orange fluorochrome direct labeled CEN 7 probe specific for the alpha satellite centromeric region of chromosome 7 (D7Z1).



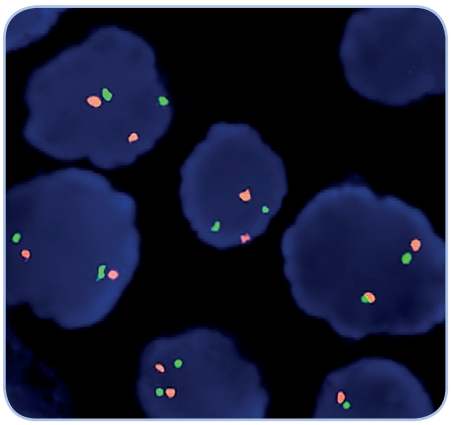
Ideogram of chromosome 7 indicating the hybridization locations.



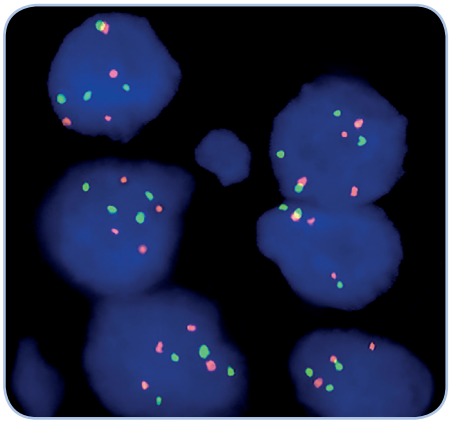
SPEC ETV1 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. Nuclei with amplification of the ETV1 gene locus 7p21.2 or polysomy of chromosome 7 will show multiple copies of the green signal or large green signal clusters.



SPEC ETV1/CEN 7 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Lung cancer tissue section with interphase cells showing polysomy of chromosome 7 as indicated by multiple green and orange signals in the nuclei.

Prod. No.	Product	Label	Tests* (Volume)
Z-2141-200	ZytoLight SPEC ETV1/CEN 7 Dual Color Probe CE IVD	●/●	20 (200 µl)
Related Products			
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.*

FE084-1-16

ZytoLight® FISH probes are direct labeled using the unique ZytoLight® *Direct Label System II* providing improved signal intensity. Advanced specificity of the single copy SPEC probes is obtained by the unique ZytoVision® *Repeat Subtraction Technique.*

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