ZytoLight® SPEC MYCN/2q11 Dual Color Probe

Previously: ZytoLight SPEC NMYC/2q11 Dual Color Probe

CE IVD

Background

The ZytoLight® SPEC MYCN/2q11 Dual Color Probe is designed for the detection of MYCN amplification which represents the most powerful unfavorable prognostic factor for neuroblastoma. Less frequently amplifications are found in retinoblastoma, small cell lung cancer, astrocytoma and other tumors derived from the neuroectoderm.

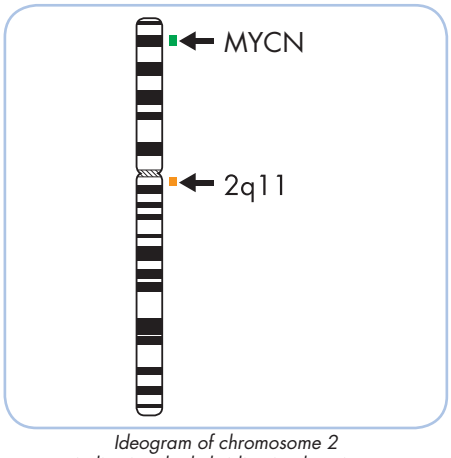
The MYCN (v-myc avian myelocytomatosis viral related oncogene, neuroblastoma derived, a.k.a. NMYC) gene is located in the chromosomal region 2p24.3 and encodes a 62-64 kDa transcription factor mainly expressed in the developing nervous system.

Amplification of the MYCN gene is found in about 25% of primary neuroblastomas and is strongly associated with rapid tumor progression, advanced stages of the disease, and poor prognosis. Hence, amplification status is increasingly being used for stratification of patients to different treatment protocols.

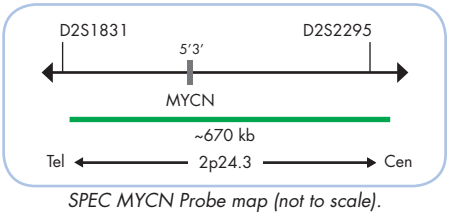
References
Gessi M, et al. (2014) Neuro Oncol 16: 924-32.
Kaneko M, et al. (1998) Med Pediatr Oncol 31: 1-7.
Lee WH, et al. (1984) Nature 309: 458-60.
Slamon DJ, et al. (1986) Science 232: 768-72.
Suita S, et al. (2007) J Pediatr Surg 42: 489-93.

Probe Description

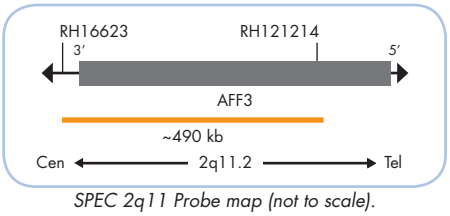
The SPEC MYCN/2q11 Dual Color Probe is a mixture of a green fluorochrome direct labeled SPEC MYCN probe hybridizing to the human MYCN gene in the chromosomal region 2p24.3 and an orange fluorochrome direct labeled SPEC 2q11 probe specific for the AFF3 (AF4/FMR2 family, member 3) gene region in 2q11.2. Due to cross-hybridizations of chromosome 2 alpha satellites to other centromeric regions, probes specific for 2q11 are frequently used for chromosome 2 copy number detection.



Ideogram of chromosome 2 indicating the hybridization locations.



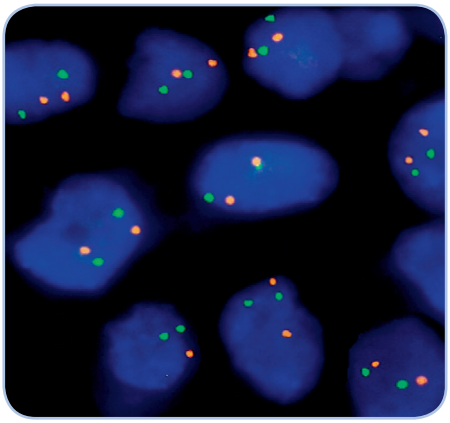
SPEC MYCN Probe map (not to scale).



SPEC 2q11 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the MYCN gene locus, multiple copies of the green signal or green signal clusters will be observed.



SPEC MYCN/2q11 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2074-200	ZytoLight SPEC MYCN/2q11 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.*

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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