

ZytoLight® SPEC MYC/CEN 8 Dual Color Probe

Previously: ZytoLight SPEC CMYC/CEN 8 Dual Color Probe

Background

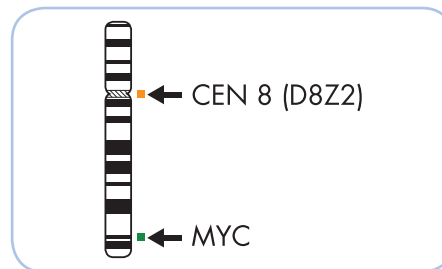
The ZytoLight® SPEC MYC/CEN 8 Dual Color Probe is designed for the detection of MYC gene amplifications found in a variety of human tumors.

The MYC proto-oncogene (v-myc avian myelocytomatosis viral oncogene homolog, a.k.a. CMYC) is located in the chromosomal region 8q24.21 and encodes a transcription factor that can activate and repress transcription thereby regulating expression of numerous target genes that are essential for cell growth and proliferation. Deregulation of MYC is a common denominator in cancer. MYC amplification was found e.g. in breast, colon, kidney, lung, ovary, bladder, head and neck, and endometrial cancer. Several studies showed a correlation between gene amplification and disease progression or recurrence in breast cancer and other malignancies. Malignant cutaneous angiosarcomas, for example, but not benign and atypical vascular lesions occurring after radiotherapy of breast cancer are characterized by amplification of the MYC gene. The presence of MYC amplification is thus of considerable diagnostic importance for the distinction of malignant from atypical postradiation vascular neoplasms of the skin.

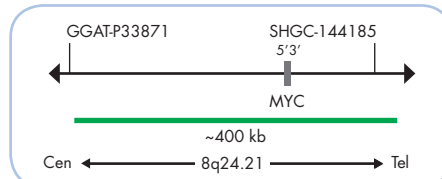
Since inactivation of MYC appears to be effective in the treatment of neoplasia MYC targeting therapies have been developed some of which have entered clinical trials.

Probe Description

The SPEC MYC/CEN 8 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 8 probe specific for the alpha satellite centromeric region of chromosome 8 (D8Z2) and a green fluorochrome direct labeled SPEC MYC probe specific for the MYC gene at 8q24.21.



Ideogram of chromosome 8 indicating the hybridization locations.



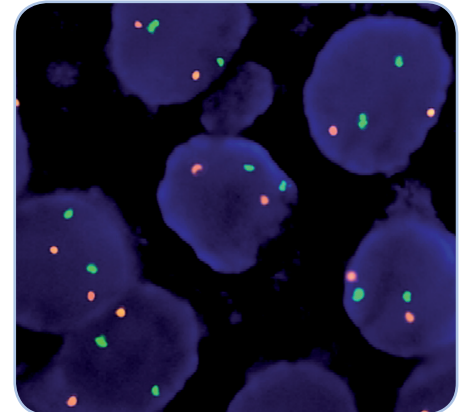
SPEC MYC Probe map (not to scale).

References

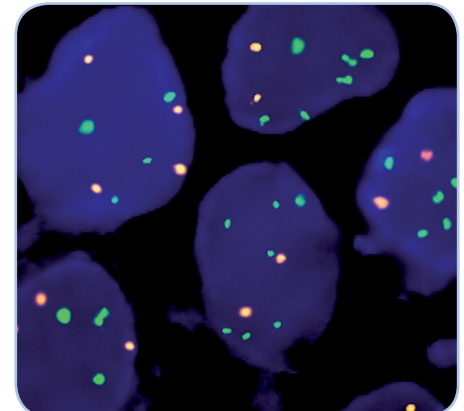
- Dalla-Favera R, et al. (1982) PNAS 79: 6497-501.
- Fromont G, et al. (2013) Hum Pathol 44: 1617-23.
- Mannuci S, et al. (2012) Adv Hematol 2012: 149780.
- Mentzel T, et al. (2012) Mod Pathol 25: 75-95.
- Nesbit CE, et al. (1999) Oncogene 18: 3004-16.
- Schraml P, et al. (1999) Clin Cancer Res 5: 1966-75.
- Taub R, et al. (1982) PNAS 79: 7837-41.

Results

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



SPEC MYC/CEN 8 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Breast cancer tissue section with interphase cells showing partly polysomy 8 and partly amplification of the MYC gene locus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2092-50	ZytoLight SPEC MYC/CEN 8 Dual Color Probe CE IVD	●/●	5 (50 µl)
Z-2092-200	ZytoLight SPEC MYC/CEN 8 Dual Color Probe CE IVD	●/●	20 (200 µl)
Related Products			
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
Z-2099-20	ZytoLight FISH-Cytology Implementation Kit CE IVD Incl. Cytology Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 50 ml; 10x MgCl ₂ , 50 ml; 10x PBS, 50 ml; Cytology Stringency Wash Buffer SSC, 500 ml; Cytology Wash Buffer SSC, 500 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.