

ZytoLight® SPEC RREB1/MYB/CEN 6 Triple Color Probe



Background

The ZytoLight® SPEC RREB1/MYB/CEN 6 Triple Color Probe is designed for the detection of copy number changes of the chromosomal regions harboring the RREB1 and the MYB gene, respectively. The RREB1 (ras responsive element binding protein 1, a.k.a. HNT) gene is located in 6p24.3 and encodes a zinc finger transcription factor. The MYB (v-myb avian myeloblastosis viral oncogene homolog, a.k.a. c-myb) gene is located in 6q23.3 and encodes a transcription factor that is implicated in proliferation, survival, and differentiation of hematopoietic progenitor cells.

Overexpression of the RREB1 protein was detected in prostate cancer and in a medullary thyroid cancer cell line. RREB1 is suggested to play a role in Ras and Raf signal transduction in medullary thyroid cancer.

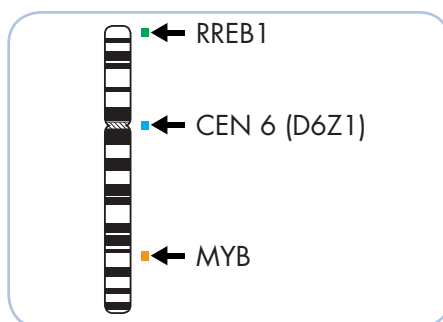
MYB has been found to be amplified in a variety of human cancers. In pancreatic cancer, MYB amplification was mainly found in advanced and metastatic tumors. In breast tumors from BRCA1 germ-line mutation carriers, MYB amplification was observed in 29% of the cases and resulted in overexpression of the MYB protein. Moreover, duplication of the MYB gene occurs in 8.4% of individuals with T-cell acute lymphoblastic leukemia (T-ALL).

References

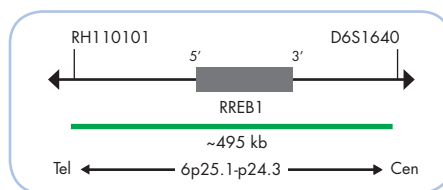
Kauraniemi P, et al. (2000) Cancer Res 60: 5323-8.
Lahortiga I, et al. (2007) Nat Genet 39: 593-5.
Thiagalingam A, et al. (1996) Mol Cell Biol 16: 5335-45.
Wallrapp C, et al. (1997) Cancer Res 57: 3135-9.
Zou J, et al. (2011) Prostate 71: 1518-24.

Probe Description

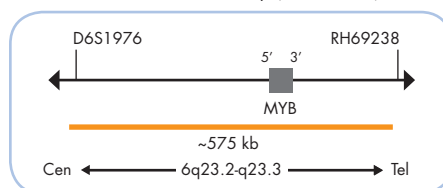
The SPEC RREB1/MYB/CEN 6 Triple Color Probe is a mixture of a green fluorochrome direct labeled SPEC RREB1 probe hybridizing to the RREB1 locus at 6p24.3-p25.1, an orange fluorochrome direct labeled SPEC MYB probe hybridizing to the MYB locus at 6q23.2-q23.3, and a blue fluorochrome direct labeled CEN 6 probe specific for the alpha satellite centromeric region of chromosome 6 (D6Z1).



Ideogram of chromosome 6 indicating the hybridization locations.



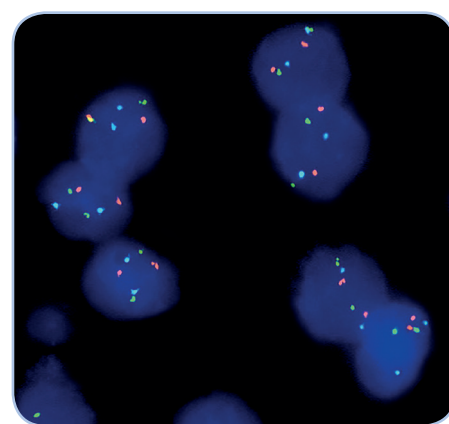
SPEC RREB1 Probe map (not to scale).



SPEC MYB Probe map (not to scale).

Results

In a normal interphase nucleus, two green, two orange, and two blue signals are expected. In a cell with amplification of the RREB1 or the MYB gene locus, multiple copies of the green or orange signal will be observed, respectively. In a cell with deletion of the RREB1 or the MYB gene locus, a reduced number of green or orange signals will be observed, respectively.



SPEC RREB1/MYB/CEN 6 Triple Color Probe hybridized to normal interphase cells as indicated by two green, two orange, and two blue signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2152-200	ZytoLight SPEC RREB1/MYB/CEN 6 Triple Color Probe CE IVD	●/●/●	20 (200 µl)
Related Products			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit CE IVD		20
Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 500 ml; 25x Wash Buffer A, 100 ml; DAPI/DuraTest-Solution, 0.8 ml			

* 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.