

ZytoLight® SPEC FGFR2/CEN 10 Dual Color Probe



Background

The ZytoLight® SPEC FGFR2/CEN 10 Dual Color Probe is designed for the detection of FGFR2 gene amplifications frequently observed in breast cancer as well as in gastric cancer.

The FGFR2 (fibroblast growth factor gene 2, a.k.a. BEK) gene is located on chromosome 10q26.13 and encodes splice variants of the receptor tyrosine kinases FGFR2b and FGFR2c.

Amplification of the FGFR2 gene leads to overexpression of the FGFR2 protein and subsequently to signal activation. Additionally, during the amplification process the C-terminal deletion of FGFR2 can occur due to exclusion of the last exon from the FGFR2 amplicon. Both, overexpression and deletion of the last exon result in FGFR2 signaling activation based on constitutive phosphorylation of the FRS2 adaptor molecule.

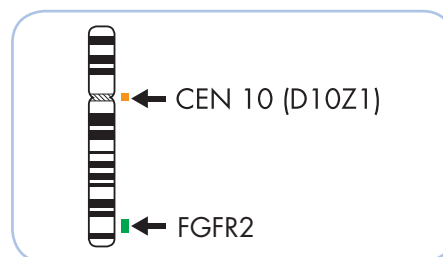
The process of ligand independent FGFR2 signaling leads to a more severe malignant phenotype of these tumors. Moreover, high FGFR2 expression is correlated with poor overall survival (OS) and poor disease-free survival (DFS) rates in breast cancer patients. Consequently, FGFR2 gene amplification detected by Fluorescence *in situ* Hybridization might be used as a prognostic marker e.g. in breast cancer.

References

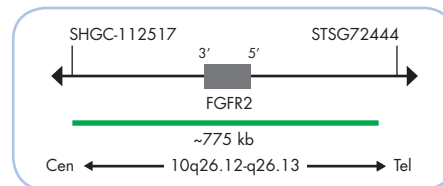
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Probe Description

The SPEC FGFR2/CEN 10 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 10 probe specific for the alpha satellite centromeric region of chromosome 10 (D10Z1) and a green fluorochrome direct labeled SPEC FGFR2 probe specific for the chromosomal region 10q26.12-q26.13 harboring the FGFR2 gene.



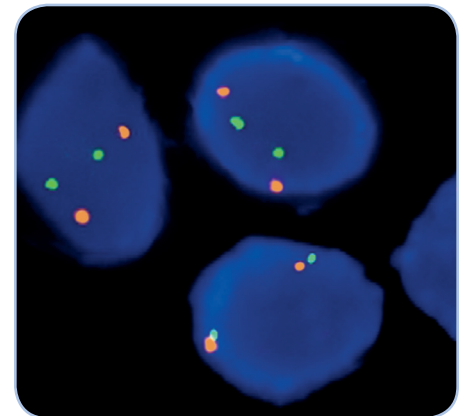
Ideogram of chromosome 10 indicating the hybridization locations.



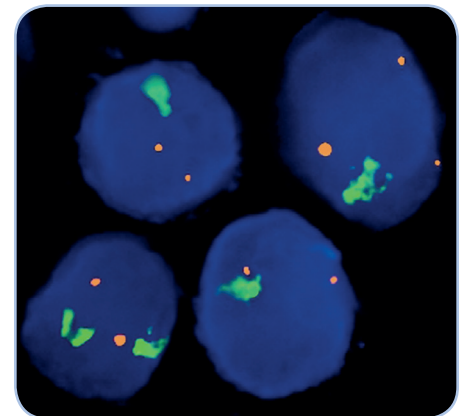
SPEC FGFR2 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. Nuclei with amplification of the FGFR2 gene locus 10q26.12-q26.13, or aneuploidy of chromosome 10 will show multiple copies of the green signal or large green signal clusters.



SPEC FGFR2/CEN 10 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 amplification of the FGFR2 gene as indicated by green signal cluster in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2122-200	ZytoLight SPEC FGFR2/CEN 10 Dual 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/DuraText-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.