ZytoLight® SPEC FGFR1/CEN 8 Dual Color Probe

CE IVD

Background

The ZytoLight® SPEC FGFR1/CEN 8 Dual Color Probe is designed for the detection of FGFR1 gene amplification frequently observed in malignant tumors e.g. breast and prostate cancer and oral squamous cell carcinoma (OSCC).

The FGFR1 (fibroblast growth factor receptor 1) gene is located in the chromosomal region 8p11.23-p11.22 and encodes a transmembrane receptor tyrosine kinase. Amplification of the FGFR1 gene, observed in approximately 10% of all breast cancer samples, has revealed to be an independent prognostic factor for overall survival. FGFR1 is believed to emerge as a potential therapeutic target for lobular breast carcinomas.

In prostate cancer, FGFR1 gene amplification seems to be an important step during the transmission to hormone resistance.

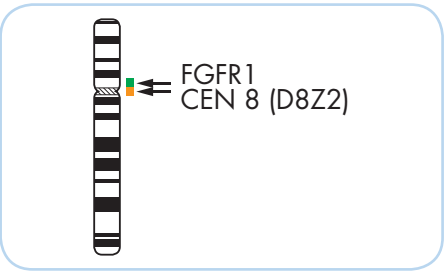
In OSCC, FGFR1 gene amplification, observed in nearly 20% of all cases, is indicated to contribute to oral carcinogenesis at an early stage of development.

References

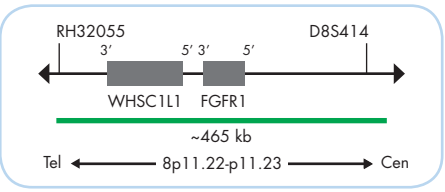
Balko JM, et al. (2012) Mol Cancer Ther 11: 2301-5.
Broom RJ, et al. (2012) Clin Genitourin Cancer 10: 202-6.
Cihoric N, et al. (2014) Br J Cancer 110: 2914-22.
Edwards J, et al. (2003) Clin Cancer Res 9: 5271-81.
Elbauomy Elsheikh S, et al. (2007) Breast Cancer Res 9: R23.
Fernanda Amary M, et al. (2014) Cancer Med 3: 980-7.
Freier K, et al. (2007) Oral Oncology 43: 60-6.
Kohler LH, et al. (2012) Virchows Arch 461: 49-57.
Lacroix-Triki M, et al. (2010) J Pathol 222: 282-98.
Lantuejoul S, et al. (2012) Oncologie 14: 530-7.
Lee PL, et al. (1989) Science 245: 57-60.
Lehnen NC, et al. (2013) Histopathology 63: 157-66.
Pfeiffer M, et al. (2012) Nat Genet 44: 1104-10.
Preusser M, et al. (2014) Lung Cancer 83: 83-9.
Reis-Filho JS, et al. (2006) Clin Cancer Res 12: 6652-62.
Schildhaus HU, et al. (2012) Mod Pathol 25: 1473-80.
Schultheis AM, et al. (2014) Mod Pathol 27: 214-21.
Seo AN, et al. (2014) Virchows Arch 465: 547-58.
Turner N, et al. (2010) Cancer Res 70: 2085-94.
Wetterskog D, et al. (2012) J Pathol 226: 84-96.

Probe Description

The SPEC FGFR1/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 FGFR1 probe specific for the FGFR1 gene at 8p11.23-p11.22.



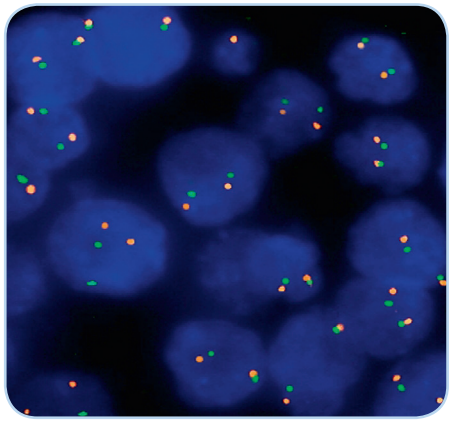
Ideogram of chromosome 8 indicating the hybridization locations.



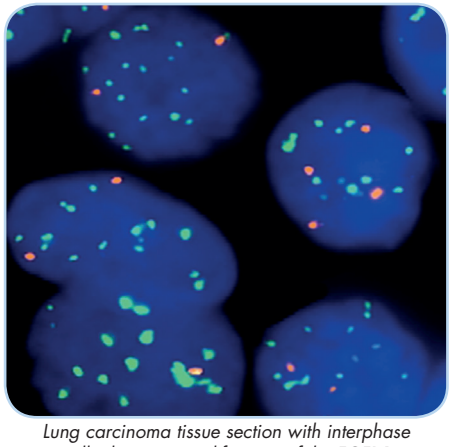
SPEC FGFR1 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the FGFR1 gene locus, multiple copies of the green signal or green signal clusters will be observed.



SPEC FGFR1/CEN 8 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Lung carcinoma tissue section with interphase cells showing amplification of the FGFR1 gene (green) and partly polysomy 8 (orange).

Prod. No.	Product	Label	Tests* (Volume)
Z-2072-50	ZytoLight SPEC FGFR1/CEN 8 Dual Color Probe CE IVD	●/●	5 (50 µl)
Z-2072-200	ZytoLight SPEC FGFR1/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, 210 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, 560 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.*