

ZytoLight® SPEC FGF3,4,19/CEN 11 Dual Color Probe



Background

The ZytoLight® SPEC FGF3,4,19/CEN 11 Dual Color Probe is designed for the detection of amplifications of the chromosomal region harboring the genes FGF3, FGF4, and FGF19.

The fibroblast growth factor encoding genes FGF3 (a.k.a. INT2), FGF4 (a.k.a. HSTF1, HST-1), and FGF19 are located in a cluster on 11q13.3, a locus that is amplified in multiple tumor types. Fibroblast growth factors and their receptors (FGFRs) regulate the growth, differentiation, and regeneration of a variety of tissues.

The genes FGF3, FGF4, and/or FGF19 were found to be amplified in some hepatocellular carcinoma (HCC). FGF3/FGF4 amplification is associated with HCC metastasis and recurrence as well as with sensitivity to treatment with sorafenib. Amplification of FGF19 in HCC results in an increased expression of this gene which is correlated with a worse prognosis. Moreover, *in vitro* studies have demonstrated that patients positive for 11q13.3 amplification are likely to respond to anti-FGF19 therapy.

Amplifications of the chromosomal region 11q13.3 have also been detected in non-small cell lung cancer (NSCLC), adenoid cystic carcinoma (ACC), and bladder cancer.

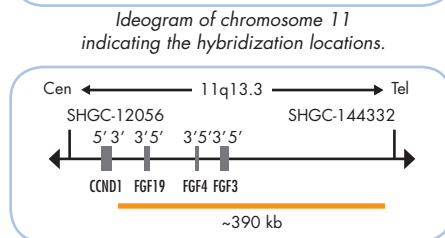
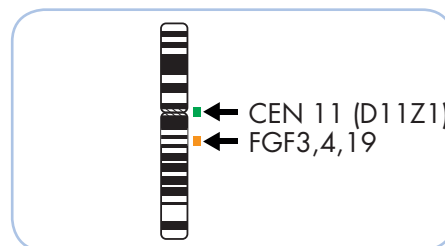
Hence, the detection of amplifications of the FGF3, FGF4, and FGF19 genes by Fluorescence *in situ* Hybridization may be of prognostic significance and may aid in therapeutic decision making in HCC.

References

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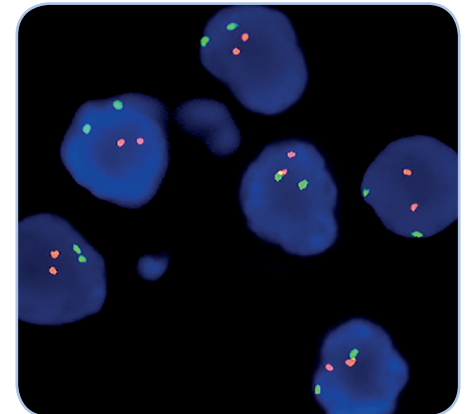
Probe Description

The SPEC FGF3,4,19/CEN 11 Dual Color Probe is a mixture of an orange fluorochrome direct labeled SPEC FGF3,4,19 probe hybridizing to the human FGF3, FGF4, and FGF19 genes in the chromosomal region 11q13.3 and a green fluorochrome direct labeled CEN 11 probe specific for the alpha satellite centromeric region of chromosome 11 (D11Z1).

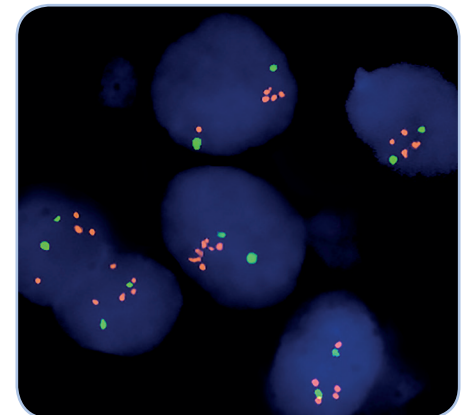


Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the FGF3, FGF4, and/or FGF19 gene locus, multiple copies of the orange signal or orange signal clusters will be observed.



SPEC FGF3,4,19/CEN 11 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 amplification of the FGF3, FGF4, and/or FGF19 gene locus as indicated by multiple orange signals in each nucleus.



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Prod. No.	Product	Label	Tests* (Volume)
Z-2158-200	ZytoLight SPEC FGF3,4,19/CEN 11 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/DuraTect-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.