ZytoLight® SPEC MET/CEN 7 Dual Color Probe

CE IVD

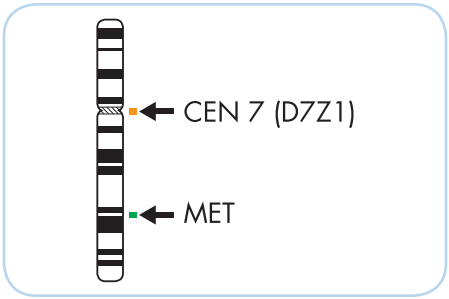
Background

The ZytoLight® SPEC MET/CEN 7 Dual Color Probe is designed for the detection of MET gene amplifications found in a variety of human tumors.
The MET gene (a.k.a. c-Met) is located in the chromosomal region 7q31.2 and encodes a transmembrane tyrosine kinase receptor for the hepatocyte growth factor (HGF). HGF and MET play an important role in angiogenesis and tumor growth. Activation or upregulation of MET was found in a number of carcinomas including lung, breast, colorectal, prostate, and gastric carcinomas as well as in gliomas, melanomas and some sarcomas. MET overexpression is known as a negative prognostic indicator in patients with various carcinomas, multiple myeloma, or glioma. Therefore, several inhibitors of the HGF/MET signaling pathway are being studied and developed as potent therapies to inhibit angiogenesis and tumor growth. Recently, it was shown that MET amplification leads to resistance to gefitinib or erlotinib in lung cancer by driving ERBB3-dependent activation of the PI3K pathway.

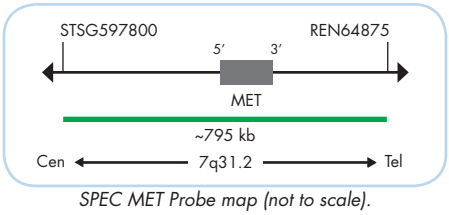
References
Ach T, et al. (2013) Virchows Arch 462: 65-72.
Cooper CS, et al. (1984) Nature 311: 29-32.
Engelman JA, et al. (2007) Science 316: 1039-43.
Ettl T, et al. (2014) Head Neck 36: 517-23.
Garcia S, et al. (2007) Int J Oncol 31: 49-58.
Hara T, et al. (1998) Lab Invest 78: 1143-53.
Lacroix L, et al. (2014) PLoS One 1: e84319.
Lee D, et al. (2015) Cancer Res Treat 47: 120-5.
Preusser M, et al. (2014) Histopathology 65: 684-92.
Schildhaus HU, et al. (2015) Clin Cancer Res 21: 907-15.

Probe Description

The SPEC MET/CEN 7 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 7 probe specific for the alpha satellite centromeric region of chromosome 7 (D7Z1) and a green fluorochrome direct labeled SPEC MET probe specific for the MET gene located at 7q31.2.



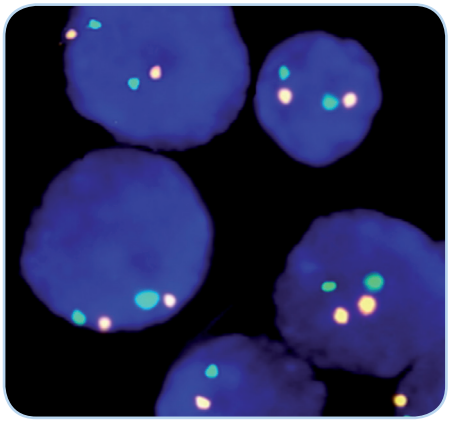
Ideogram of chromosome 7 indicating the hybridization locations.



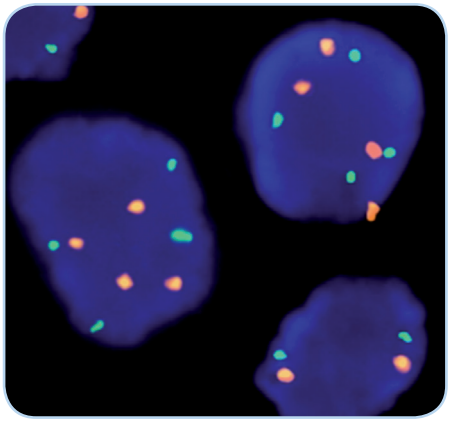
SPEC MET Probe map (not to scale).

Results

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



SPEC MET/CEN 7 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Lung cancer cells with polysomy of chromosome 7 as indicated by four orange (CEN 7) and four green (MET) signals in the nuclei.

Prod. No.	Product	Label	Tests* (Volume)
Z-2087-50	ZytoLight SPEC MET/CEN 7 Dual Color Probe CE IVD	●/●	5 (50 µl)
Z-2087-200	ZytoLight SPEC MET/CEN 7 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.*