

ZytoLight® SPEC ESR1 /CEN 6 Dual Color Probe

Background

The ZytoLight® SPEC ESR1/CEN 6 Dual Color Probe is designed for the detection of ESR1 gene amplification frequently observed in breast cancer.

The ESR1 (estrogen receptor 1) gene is located in the chromosomal region 6q25.1 and encodes estrogen receptor alpha (ER). ER expression is one of the most important known factors in the development of breast cancer, and assessing its status by immunohistochemistry is important for determining the use of anti-estrogen receptor therapies.

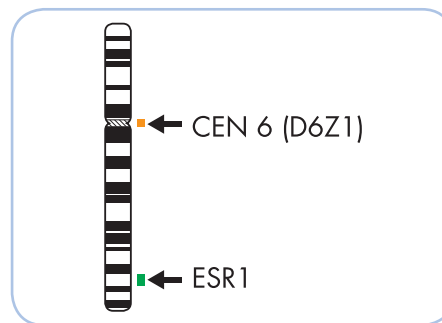
ESR1 gene amplification has been found frequently in ER-positive breast tumors. Additionally, it has been shown very recently for breast cancer patients receiving adjuvant tamoxifen monotherapy that survival is significantly longer in cases of ESR1 gene amplification as determined by FISH compared to immunohistochemically ER-positive cases without gene amplification. Additionally, it has been shown that response to tamoxifen is dependent on the absolute ESR1 copy number. Thus, determination of ESR1 amplification may identify a subgroup of breast cancer patients particularly likely to respond to anti-estrogen therapy.

References

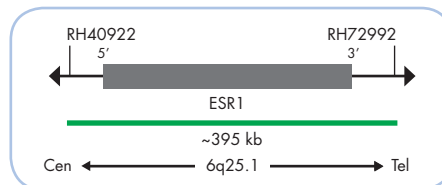
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Probe Description

The SPEC ESR1/CEN 6 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 6 probe specific for the alpha satellite centromeric region of chromosome 6 (D6Z1) and a green fluorochrome direct labeled SPEC ESR1 probe hybridizing to the ESR1 locus at 6q25.1.



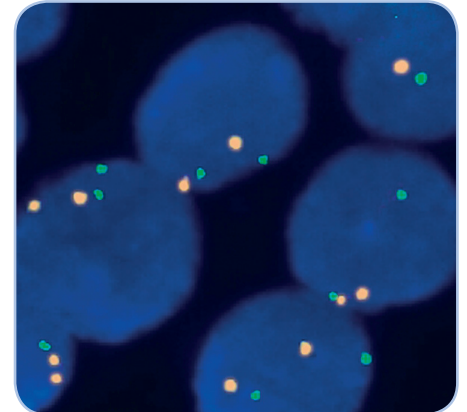
Ideogram of chromosome 6 indicating the hybridization locations.



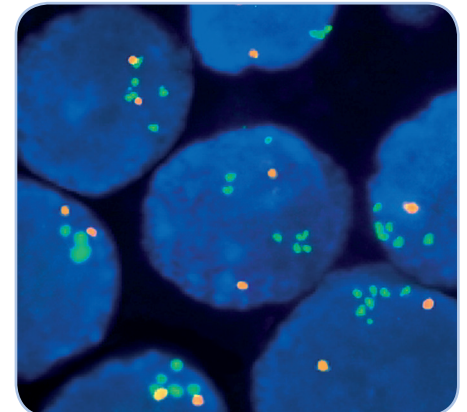
SPEC ESR1 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the ESR1 gene locus, multiple copies of the green signal or green signal clusters will be observed.



SPEC ESR1/CEN 6 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



ESR1 gene amplification as indicated by multiple green ESR1 specific signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2069-50	ZytoLight SPEC ESR1/CEN 6 Dual Color Probe CE IVD	●/●	5 (50 µl)
Z-2069-200	ZytoLight SPEC ESR1/CEN 6 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, 150 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, 500 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.