

ZytoLight® CEN 17/SPEC ERBB2 Dual Color Probe

Background

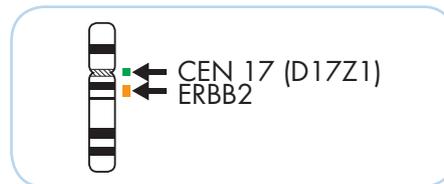
The *ZytoLight*® CEN 17/SPEC ERBB2 Dual Color Probe is designed for the detection of ERBB2 gene amplification frequently observed in solid malignant neoplasms e.g. breast cancer samples. The ERBB2 gene (a.k.a. HER2 and NEU) is located in the chromosomal region 17q12 and encodes a 185-190 kDa transmembrane glycoprotein, p185, acting as a cellular growth factor receptor. The p185 protein belongs to the EGFR (epidermal growth factor receptor) sub-group of the RTK (receptor tyrosine kinase) superfamily also including EGFR (ERBB1, HER1), ERBB3 (HER3), and ERBB4 (HER4). Amplification of the proto-oncogene ERBB2, observed in approximately 20% of all breast cancer samples, has been correlated with a poor prognosis of the disease. Similar results have been obtained for a variety of other malignant neoplasms e.g. ovarian cancer, stomach cancer, and carcinomas of the salivary gland.

References

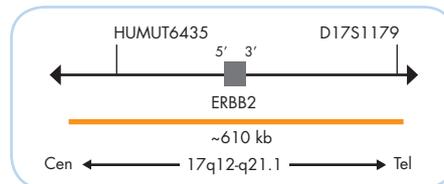
Baselga J, et al. (1999) *Semin Oncol* 26: 78-83.
 Brockhoff G, et al. (2016) *Histopathology* 69: 635-46.
 Brunello E, et al. (2012) *Histopathology* 60: 482-8.
 Brunner K, et al. (2010) *Anal Quant Cytol Histol* 32: 78-89.
 Coussens L, et al. (1985) *Science* 230: 1132-9.
 Ettl T, et al. (2012) *Br J Cancer* 106: 719-26.
 Hwang CC, et al. (2011) *Histopathology* 59: 984-92.
 Hynes NE & Stern DF (1994) *Biochim Biophys Acta* 1198: 165-84.
 Moelans CB, et al. (2011) *Crit Rev Oncol Hematol* 80: 380-92.
 Park JB, et al. (1989) *Cancer Res* 49: 6605-9.
 Popescu NC, et al. (1989) *Genomics* 4: 362-6.
 Sassen A, et al. (2008) *Breast Cancer Res* 10: R2.
 Slamon DJ, et al. (1987) *Science* 235: 177-82.
 Voutsas IF, et al. (2013) *Int J Radiat Biol* 89: 319-25.
 Wolff AC, et al. (2018) *J Clin Oncol* 14: 437-41.

Probe Description

The CEN 17/SPEC ERBB2 Dual Color Probe is a mixture of a green fluorochrome direct labeled CEN 17 probe specific for the alpha satellite centromeric region of chromosome 17 (D17Z1) and an orange fluorochrome direct labeled SPEC ERBB2 probe specific for the chromosomal region 17q12-q21.1 harboring the ERBB2 gene.



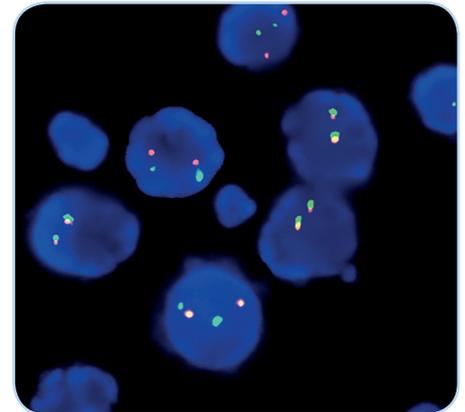
Ideogram of chromosome 17 indicating the hybridization locations.



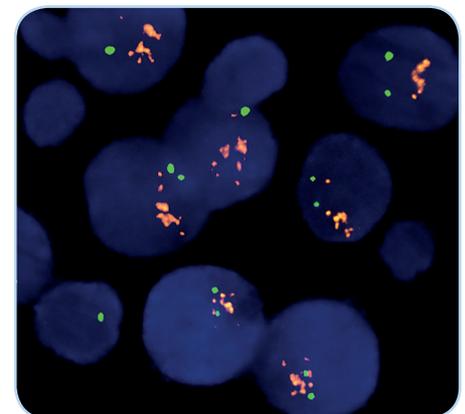
SPEC ERBB2 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the ERBB2 gene locus, multiple copies of the orange signal or orange signal clusters will be observed.



Normal interphase cells, ERBB2 (orange), CEN 17 (green).



Breast carcinoma tissue section, ERBB2 gene cluster (orange), CEN 17 (green).

Prod. No.	Product	Label	Tests* (Volume)
Z-2077-50	<i>ZytoLight</i> CEN 17/SPEC ERBB2 Dual Color Probe CE IVD	●/●	5 (50 µl)
Z-2077-200	<i>ZytoLight</i> CEN 17/SPEC ERBB2 Dual Color Probe CE IVD	●/●	20 (200 µl)
Related Products			
Z-2028-5	<i>ZytoLight</i> 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	<i>ZytoLight</i> 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.