

## FlexISH® ERBB2/CEN 17 Dual Color Probe

### Background

The FlexISH® ERBB2/CEN 17 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) subgroup of the RTK (receptor tyrosine kinase) superfamily also including EGFR (ERBB1), 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.

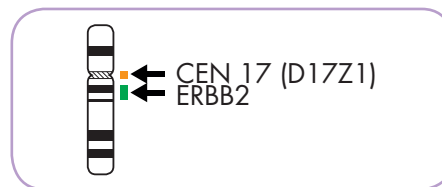
Similar results have been obtained for a variety of other malignant neoplasms, e.g., ovarian cancer, stomach cancer, and carcinomas of the salivary gland.

### References

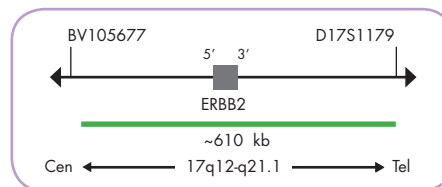
- Baselga J, et al. (1999) *Semin Oncol* 26: 78-83.  
 Brockhoff G, et al. (2016) *Histopathology* [Epub ahead of print].  
 Brunello E, et al. (2012) *Histopathology* 60: 482-8.  
 Brunner K, et al. (2010) *Anal Quant Cytol Histol* 32: 78-89.  
 Coussens L, et al. (1985) *Science* 230: 1132-9.  
 Ethl 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.  
 Vouissas IF, et al. (2013) *Int J Radiat Biol* 89: 319-25.  
 Wolff AC, et al. (2013) *J Clin Oncol* 31: 3997-4013.

### Probe Description

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



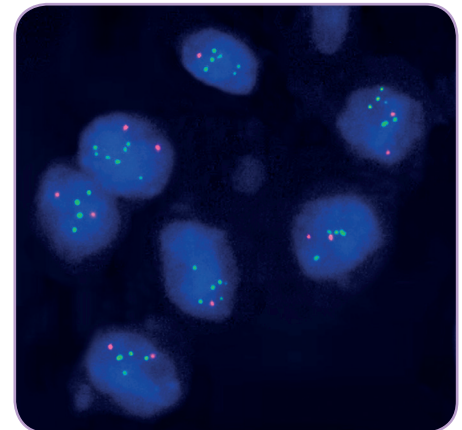
Ideogram of chromosome 17 indicating the hybridization locations.



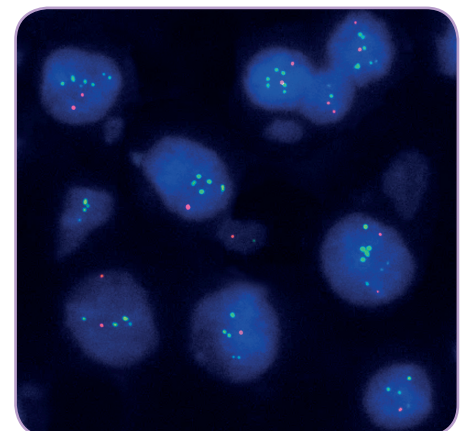
ERBB2 Probe map (not to scale).

### Results

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



FlexISH ERBB2/CEN 17 Dual Color Probe hybridized for 2 hours on an endometrial carcinoma tissue section with ERBB2 (green) amplification.



FlexISH ERBB2/CEN 17 Dual Color Probe hybridized overnight on an endometrial carcinoma tissue section with ERBB2 (green) amplification.

Prod. No.	Product	Label	Tests* (Volume)
Z-2166-50	FlexISH ERBB2/CEN 17 Dual Color Probe <b>CE IVD</b>	●/●	5 (50 µl)
Z-2166-200	FlexISH ERBB2/CEN 17 Dual Color Probe <b>CE IVD</b>	●/●	20 (200 µl)
Related Products			
Z-2182-5	FlexISH-Tissue Implementation Kit <b>CE IVD</b> Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1 ml; 5x FlexISH Wash Buffer, 150 ml; DAPI/DuraTect-Solution, 0.2 ml		5
Z-2182-20	FlexISH-Tissue Implementation Kit <b>CE IVD</b> Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; 5x FlexISH Wash Buffer, 500 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.