

## ZytoDot® 2C SPEC ERBB2/D17S122 Probe

### Background

The ZytoDot® 2C SPEC ERBB2/D17S122 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 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.

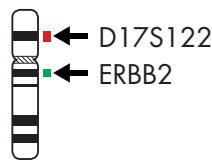
Chromogenic *in situ* Hybridization targeting the alpha satellite centromeric regions of chromosome 17 may be misleading in some cases due to possible gains or losses of this region. For these cases, judged as equivocal according to the ASCO guidelines, reflex testing is recommended using the SPEC ERBB2/D17S122 Probe.

### References

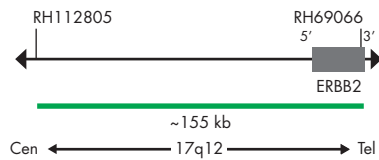
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### Probe Description

The ZytoDot® 2C SPEC ERBB2/D17S122 Probe is a mixture of a Digoxigenin-labeled probe specific for the chromosomal region 17q12 harboring the ERBB2 gene and a Dinitrophenyl-labeled SPEC D17S122 probe specific for the chromosomal region 17p12. The SPEC D17S122 probe is designed to be used for chromosome 17 copy number detection.



Ideogram of chromosome 17 indicating the hybridization locations.



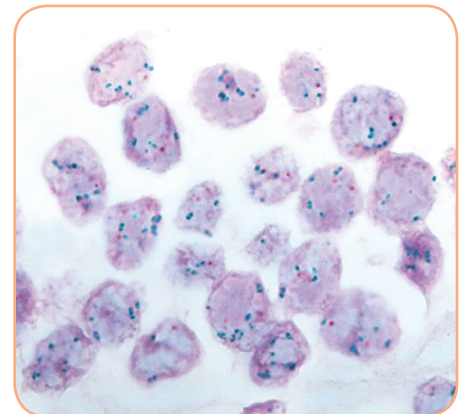
SPEC ERBB2 Probe map (not to scale).



SPEC D17S122 Probe map (not to scale).

### Results

In a normal interphase nucleus, using the ZytoDot® 2C CISH Implementation Kit, two green (ERBB2) and two red (D17S122) signals are expected. In a cell with amplification of the ERBB2 gene locus or polysomy of chromosome 17, multiple copies of the green signal or green signal clusters will be observed.



Breast carcinoma tissue section with amplification of the ERBB2 gene as indicated by multiple green signals in relation to red (D17S122) signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
C-3068-100	ZytoDot 2C SPEC ERBB2/D17S122 Probe CE IVD	Digoxigenin/DNP	10 (100 µl)

### Related Products

C-3044-10	ZytoDot 2C CISH Implementation Kit CE IVD		10
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Incl. Heat Pretreatment Solution EDTA, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 150 ml; 20x Wash Buffer TBS, 50 ml; Anti-DIG/DNP-Mix, 1 ml; HRP/AP-Polymer-Mix, 1 ml; AP-Red Solution A, 0.1 ml; AP-Red Solution B, 4 ml; HRP-Green Solution A, 0.2 ml; HRP-Green Solution B, 4 ml; Nuclear Blue Solution, 4 ml; Mounting Solution (alcoholic), 1 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.