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**Background**

The ZytoLight® SPEC ERBB2/D17S122 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 17q12-21.1 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 ERBB1 (HER1), ERBB3 (HER3), and ERBB4 (HER4).

Amplification of the proto-oncogene ERBB2, observed in approximately 20% of all breast cancer cases, 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. Fluorescence 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 Dual Color Probe.

**Probe Description**

The SPEC ERBB2/D17S122 Dual Color Probe is a mixture of a green fluorochrome direct labeled SPEC ERBB2 probe specific for the chromosomal region 17q12-q21.1 harboring the ERBB2 gene and an orange fluorochrome direct 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.

**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 green signal or green signal clusters will be observed.

**References**


**ZytoLight® SPEC ERBB2/D17S122 Dual Color Probe**

**Prod. No.** Z-2190-50  
**ZytoLight® SPEC ERBB2/D17S122 Dual Color Probe**

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<th>Label</th>
<th>Tests* (Volume)</th>
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<td>Z-2190-50 ZytoLight® SPEC ERBB2/D17S122 Dual Color Probe</td>
<td>CE IVD</td>
<td>5 (50 μl)</td>
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**Related Products**

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<td>ZytoLight® FISH-Tissue Implementation Kit</td>
<td>CE IVD</td>
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* 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.