

# ZytoLight® SPEC MYC/CDKN2A/ERBB2/ZNF217 Quadruple Color Probe

CE IVD

## Background

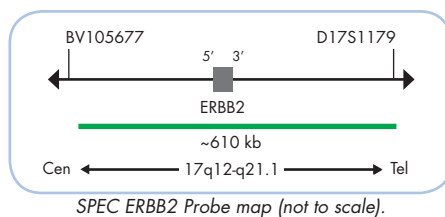
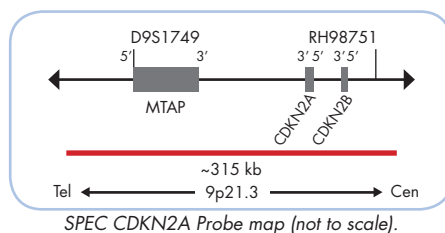
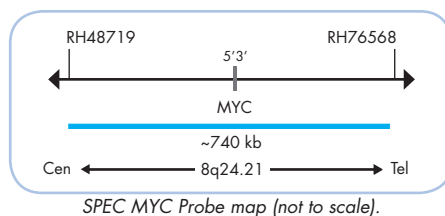
The ZytoLight® SPEC MYC/CDKN2A/ERBB2/ZNF217 Quadruple Color Probe is designed for the simultaneous detection of the MYC (a.k.a. CMYC), CDKN2A (a.k.a. p16), ERBB2 (a.k.a. HER2), and ZNF217 gene copy number status. Barrett's esophagus (BE), a preneoplastic condition in which the squamous epithelium of the distal esophagus undergoes transformation to intestinal metaplasia, is considered a precursor for the development of adenocarcinoma. The evolution of cancer from BE includes the following stages: metaplasia, low-grade dysplasia, high-grade dysplasia (HGD), and esophageal adenocarcinoma (EA). EA has a poor prognosis unless detected and treated at its earliest stages. It is believed that the progression of normal squamous epithelium to EA in patients with BE results from the accumulation of genetic alterations including, e.g., CDKN2A loss or gain of the MYC, ERBB2, or ZNF217 gene locus. Hence, detection of these aberrations may provide useful information on disease progression. Moreover, allelic loss of CDKN2A was shown to result in decreased response to photodynamic therapy in patients with HGD and EA. In addition, detection of ERBB2 amplifications may help in selecting patients eligible for an ERBB2 targeted therapy such as trastuzumab.

## References

Brankley SM, et al. (2012) Hum Pathol 43: 172-9.  
Dahlberg PS, et al. (2004) Ann Thorac Surg 78: 1790-800.  
Fritcher EG, et al. (2008) Hum Pathol 39: 1128-35.  
Prasad GA, et al. (2008) Gastroenterology 135: 370-9.  
Riegman PH, et al. (2001) Cancer Res 61: 3164-70.

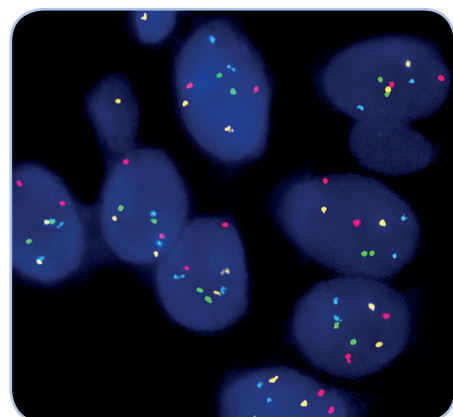
## Probe Description

The SPEC MYC/CDKN2A/ERBB2/ZNF217 Quadruple Color Probe is a mixture of a blue fluorochrome direct labeled SPEC MYC probe specific for the MYC gene at 8q24.21, a red fluorochrome direct labeled SPEC CDKN2A probe specific for the CDKN2A gene at 9p21.3, a green fluorochrome direct labeled SPEC ERBB2 probe specific for the chromosomal region 17q12-q21.1 harboring the ERBB2 gene, and a gold fluorochrome direct labeled SPEC ZNF217 probe specific for the ZNF217 gene at 20q13.2.

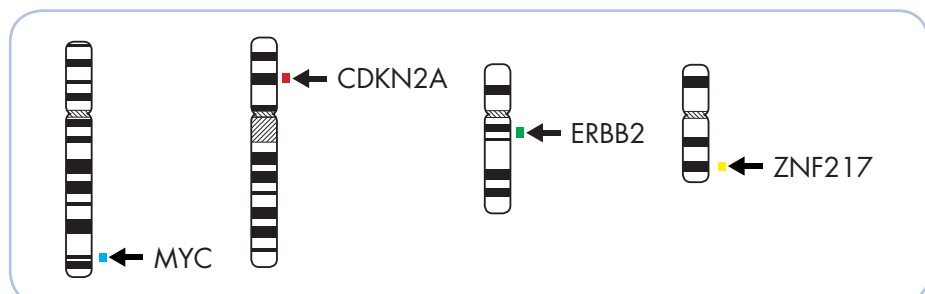
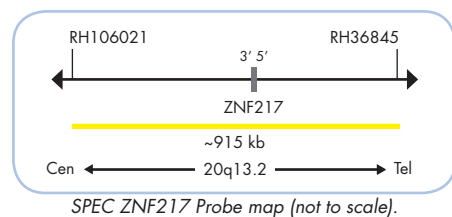


## Results

In a normal interphase nucleus, two blue, two red, two green, and two gold signals are expected. In a cell with deletion of the CDKN2A gene locus, a reduced number of red signals will be observed. In cells with amplification of the MYC, ERBB2, or ZNF217 gene locus, more signals of the respective color will be visible.



SPEC MYC/CDKN2A/ERBB2/ZNF217 Quadruple Color Probe hybridized to normal interphase cells as indicated by two blue (MYC), two red (CDKN2A), two green (ERBB2), and two gold (ZNF217) signals.



Ideograms of chromosomes 8, 9, 17, and 20 indicating the hybridization locations.

Prod. No.	Product	Label	Tests* (Volume)
Z-2204-200	ZytoLight SPEC MYC/CDKN2A/ERBB2/ZNF217 Quadruple Color Probe CE IVD	●/●/●/●	20 (200 µl)
<b>Related Products</b>			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit CE IVD		20
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			

\* 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.