

ZytoLight® SPEC CCND1 /CEN 11 Dual Color Probe



Background

The ZytoLight® SPEC CCND1/CEN 11 Dual Color Probe is designed for the detection of CCND1 gene amplification frequently observed in breast cancer and other human tumors.

The cyclin D1 gene (a.k.a. CCND1 or PRAD1) is located in the chromosomal region 11q13.3 and encodes a regulatory subunit of cyclin-dependent kinases that promote progression through the cell cycle.

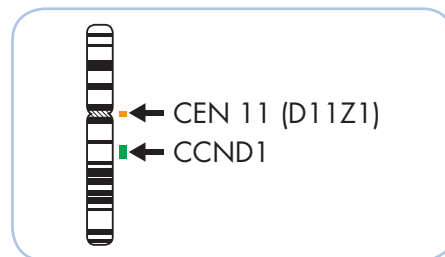
The proto-oncogene CCND1 is amplified in a number of solid tumors including approx. 20% of all human breast cancer cases and about 30% of squamous cell carcinomas of the esophagus and the head and neck region. Amplification of chromosomal material from 11q13.3 harboring the CCND1 gene is discussed as a prognostic marker in terms of metastasis, tumor recurrence, and survival for several tumor entities. In gastrointestinal stromal tumors (GIST), CCND1 amplification was found in 16% of high-risk tumors and was absent in low- or intermediate-risk tumors indicating the prognostic relevance of this genetic alteration in GIST.

References

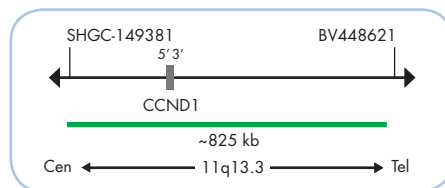
- Al-Kuraya K, et al. (2004) Cancer Res 64: 8534-40.
- Courjal F, et al. (1997) Cancer Res 57: 4360-7.
- Motokura T, et al. (1991) Nature 350: 512-5.
- Ormandy CJ, et al. (2003) Breast Cancer Res Treat 78: 323-35.
- Schuuring E (1995) Gene 159: 83-96.
- Tornillo L, et al. (2005) Lab Invest 85: 921-31.
- Xiong Y, et al. (1991) Cell 65: 691-9.

Probe Description

The SPEC CCND1/CEN 11 Dual Color Probe is a mixture of an orange fluorochrome direct labeled CEN 11 probe specific for the alpha satellite centromeric region of chromosome 11 (D11Z1) and a green fluorochrome direct labeled SPEC CCND1 probe specific for the CCND1 gene at 11q13.3.



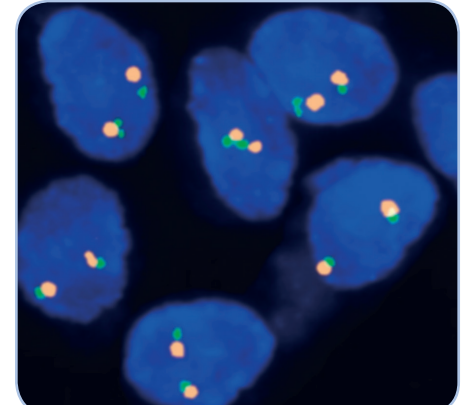
Ideogram of chromosome 11 indicating the hybridization locations.



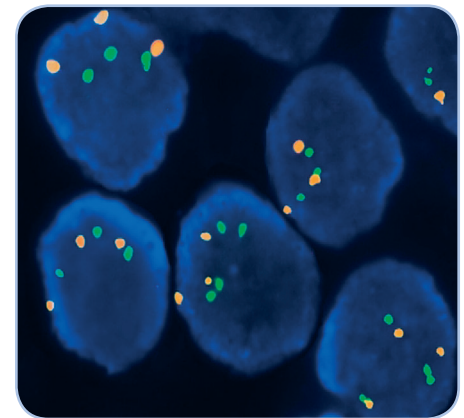
SPEC CCND1 Probe map (not to scale).

Results

In a normal interphase nucleus, two orange and two green signals are expected. In a cell with amplification of the CCND1 gene locus, multiple copies of the green signal or large green signal clusters will be observed.



SPEC CCND1/CEN 11 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



Polyploidy of chromosome 11 as indicated by three orange (CEN 11) and three green (CCND1) signals in each nucleus.

Prod. No.	Product	Label	Tests* (Volume)
Z-2071-200	ZytoLight SPEC CCND1/CEN 11 Dual Color Probe CE IVD	●/●	20 (200 µl)
Related Products			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit CE IVD 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		20
Z-2099-20	ZytoLight FISH-Cytology Implementation Kit CE IVD Incl. Cytology Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 50 ml; 10x MgCl2, 50 ml; 10x PBS, 50 ml; Cytology Stringency Wash Buffer SSC, 500 ml; Cytology Wash Buffer SSC, 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.