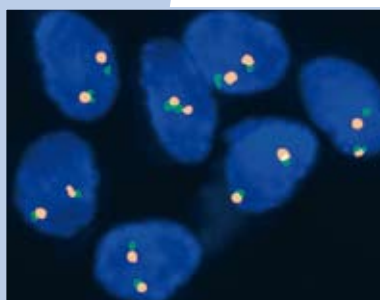
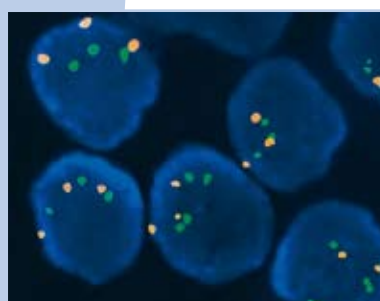


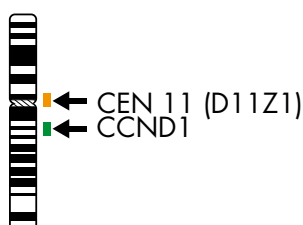
ZytoLight® SPEC CCND1/CEN 11 Dual Color Probe



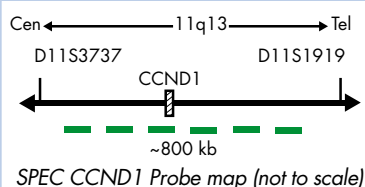
SPEC CCND1/CEN11 Dual Color Probe hybridized to normal interphase cells as indicated by two orange and two green signals in each nucleus.



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



Ideogram of chromosome 11 indicating the hybridization locations.



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 and encodes a regulatory subunit of cyclin-dependent kinases that promote progression through the cell cycle.

The protooncogene 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 harboring the CCND1 gene is discussed as 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.

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. Orange fluorochrome is ZyOrange: Excitation 547 nm, emission 572 nm (equivalent to Rhodamine). Green fluorochrome is ZyGreen: Excitation 503 nm, emission 528 nm (equivalent to FITC).

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.

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.

Prod. No.	Product	Label	Tests*
Z-2071-200	ZytoLight SPEC CCND1/CEN 11 Dual Color Probe	green/orange	20
Related Products			
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 500 ml; 25x Wash Buffer A, 100 ml; DAPI/Antifade-Solution, 0.8 ml		20

* Using 10 µl probe solution per test.

FE013-1-08

ZytoVision GmbH
Fischkai 1
D - 27572 Bremerhaven
Germany

www.zytovision.com

ZytoLight® FISH probes are direct labeled using the unique ZytoLight® Direct Label System II providing improved signal intensity. Advanced specificity of the single copy SPEC probes is obtained by the unique ZytoVision® Repeat Subtraction Technique.