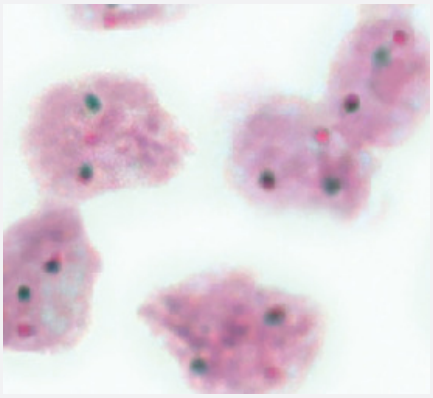
# CCND1 Split CISH Probe

Catalog # CS0004 Size 100 uL

## Applications



### Chromogenic *In Situ* Hybridization (FFPE Tissue)

Mantle cell lymphoma tissue section with translocation affecting the 11q13.3 locus as indicated by one non-rearranged red/green fusion signal, one red signal, and one separate green signal indicating the translocation.

## Specification

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| **Product Description** | CCND1 Split CISH Probe is designed for the qualitative detection of translocations involving the human CCND1 gene at 11q13.3 in formalin-fixed, paraffin-embedded specimens by chromogenic *in situ* hybridization (CISH). |
| **Reactivity** | Human |
| **Recommend Usage** | The product is ready-to-use. No reconstitution, mixing, or dilution is required. Bring probe to room temperature (18-25°C) and mix briefly before use. |
| **Supplied Products** | Reagent Provided:<br><br>This Probe is available in one size and is composed of:<br>Digoxigenin-labeled polynucleotides, which target sequences mapping in 11q13.3* (chr11:68,522,105-68,705,283) proximal to the CCND1 breakpoint region.<br>Dinitrophenyl-labeled polynucleotides, which target sequences mapping in 11q13.3* (chr11:69,453,301-70,031,240) distal to the CCND1 breakpoint region.<br>Formamide based hybridization buffer.<br><br>*according to Human Genome Assembly GRCh37/hg19 |
| **Probe Position** | |

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| **Regulatory Status** | For research use only (RUO) |
| **Storage Instruction** | Store at 2-8°C in an upright position. Return to storage conditions immediately after use. |
| **Note** | The probe is intended to be used in combination with the CISH Implementation Kit 2 (Catalog #: KA5366), which provides necessary reagents for specimen pretreatment and post-hybridization processing.<br><br>Interpretation of results:<br>Using the CISH Implementation Kit 2 (Cat # KA5366), hybridization signals of Digoxigenin-labeled polynucleotides appear as dark green colored distinct dots (proximal to the CCND1 breakpoint region), and Dinitrophenyllabeled polynucleotides appear as bright red colored distinct dots (distal to the CCND1 breakpoint region).<br>**Normal situation**: In interphases of normal cells or cells without a translocation involving the CCND1 gene region, two red/green fusion signals appear.<br>**Aberrant situation**: One CCND1 gene region affected by a translocation is indicated by one separate green signal and one separate red signal.<br>Overlapping signals may appear as brown signals. Genomic aberrations due to small deletions, duplications or inversions might result in inconspicuous signal patterns. Other signal patterns than those described above may be observed in some abnormal samples. These unexpected signal patterns should be further investigated.<br><br>The digoxigenin-labeled probe and the formamide-based hybridization buffer are pre-mixed and provided in a single ready-to-use vial. Only one tube is included in the package. |
| **Interpretation of Result** | |
| **Self-Attestation** | Abnova self-attests to comply with the U.S. Framework for Nucleic Acid Synthesis Screening |

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## Gene Info — CCND1

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|---|---|
| **Entrez GeneID** | 595 |
| **Gene Name** | CCND1 |
| **Gene Alias** | BCL1, D11S287E, PRAD1, U21B31 |
| **Gene Description** | cyclin D1 |
| **Omim ID** | 151400 168461 193300 254500 |

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| | |
|---|---|
| **Gene Ontology** | Hyperlink |
| **Gene Summary** | The protein encoded by this gene belongs to the highly conserved cyclin family, whose members are characterized by a dramatic periodicity in protein abundance throughout the cell cycle. Cyclins function as regulators of CDK kinases. Different cyclins exhibit distinct expression and degradatio n patterns which contribute to the temporal coordination of each mitotic event. This cyclin forms a complex with and functions as a regulatory subunit of CDK4 or CDK6, whose activity is required f or cell cycle G1/S transition. This protein has been shown to interact with tumor suppressor protei n Rb and the expression of this gene is regulated positively by Rb. Mutations, amplification and ov erexpression of this gene, which alters cell cycle progression, are observed frequently in a variety of tumors and may contribute to tumorigenesis. [provided by RefSeq |
| **Other Designations** | B-cell CLL/lymphoma 1\|G1/S-specific cyclin D1 |

## Pathway

- Acute myeloid leukemia
- Bladder cancer
- Cell cycle
- Chronic myeloid leukemia
- Colorectal cancer
- Endometrial cancer
- Focal adhesion
- Glioma
- Jak-STAT signaling pathway
- Melanoma
- Non-small cell lung cancer
- p53 signaling pathway
- Pancreatic cancer
- Pathways in cancer
- Prostate cancer
- Small cell lung cancer
- Thyroid cancer

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- Wnt signaling pathway

## Disease

- Adenocarcinoma
- Adenoma
- Ataxia telangiectasia
- Barrett Esophagus
- Brain Neoplasms
- Breast cancer
- Breast Neoplasms
- Carcinoma
- Carcinoma in Situ
- Cell Transformation
- Chromosome Aberrations
- Chronic Disease
- Colitis
- Colon cancer
- Colorectal Neoplasms
- Crohn Disease
- Disease Progression
- Disease Susceptibility
- DNA Damage
- Endometrial Neoplasms
- Esophageal Neoplasms
- Fetal Diseases
- Gastritis

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- Gastroesophageal Reflux
- Genetic Predisposition to Disease
- Genomic Instability
- Glioma
- Head and Neck Neoplasms
- Helicobacter Infections
- Hematologic Diseases
- Hemophilia A
- Hepatoblastoma
- Hodgkin Disease
- Hyperparathyroidism
- Hypopharyngeal Neoplasms
- Inflammatory Bowel Diseases
- Insulin Resistance
- Intestinal Neoplasms
- Kidney Failure
- Kidney Neoplasms
- Laryngeal Diseases
- Laryngeal Neoplasms
- Leiomyoma
- Leukemia
- Leukoplakia
- Liver Neoplasms
- Lung Neoplasms
- Lymphatic Metastasis

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- Lymphoma
- Lymphoproliferative Disorders
- Meningeal Neoplasms
- Meningioma
- Mouth Neoplasms
- Nasopharyngeal Neoplasms
- Neoplasm Invasiveness
- Neoplasm Metastasis
- Neoplasm Recurrence
- Neoplasms
- Neuroma
- Obesity
- Occupational Diseases
- Oropharyngeal Neoplasms
- Ovarian cancer
- Ovarian Neoplasms
- Papillomavirus Infections
- Peptic Ulcer
- Pituitary Neoplasms
- Precancerous Conditions
- Prolactinoma
- Prostate cancer
- Prostatic Hyperplasia
- Prostatic Neoplasms
- Pulmonary Disease
- Rectal Neoplasms

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- Recurrence
- Retinoblastoma
- Skin Neoplasms
- Stomach Neoplasms
- Translocation
- Urinary Bladder Neoplasms
- Uterine Cervical Neoplasms
- Uterine Neoplasms
- Waldenstrom Macroglobulinemia
- Werner syndrome

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