

**Anti- Cyclin D1 Antibody**  
Catalog # ABO10620**Specification**

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**Anti- Cyclin D1 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P24385</a>
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for G1/S-specific cyclin-D1(CCND1) detection. Tested with WB in Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti- Cyclin D1 Antibody - Additional Information**

**Gene ID** 595

**Other Names**

G1/S-specific cyclin-D1, B-cell lymphoma 1 protein, BCL-1, BCL-1 oncogene, PRAD1 oncogene, CCND1, BCL1, PRAD1

**Calculated MW**

33729 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**Subcellular Localization**

Nucleus . Cytoplasm . Membrane . Cyclin D-CDK4 complexes accumulate at the nuclear membrane and are then translocated to the nucleus through interaction with KIP/CIP family members. .

**Protein Name**

G1/S-specific cyclin-D1

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human Cyclin D1(19-37aa DANLLNDRVLRAMLKAEET), different from the related mouse and rat sequences by two amino acids.

**Purification**

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

### Sequence Similarities

Belongs to the cyclin family. Cyclin D subfamily.

## Anti- Cyclin D1 Antibody - Protein Information

**Name** CCND1 {ECO:0000303|PubMed:8204893, ECO:0000312|HGNC:HGNC:1582}

### Function

Regulatory component of the cyclin D1-CDK4 (DC) complex that phosphorylates and inhibits members of the retinoblastoma (RB) protein family including RB1 and regulates the cell-cycle during G(1)/S transition (PubMed: <a href="http://www.uniprot.org/citations/1827756" target="\_blank">1827756</a>, PubMed: <a href="http://www.uniprot.org/citations/1833066" target="\_blank">1833066</a>, PubMed: <a href="http://www.uniprot.org/citations/19412162" target="\_blank">19412162</a>, PubMed: <a href="http://www.uniprot.org/citations/33854235" target="\_blank">33854235</a>, PubMed: <a href="http://www.uniprot.org/citations/8114739" target="\_blank">8114739</a>, PubMed: <a href="http://www.uniprot.org/citations/8302605" target="\_blank">8302605</a>). Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complex and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase (PubMed: <a href="http://www.uniprot.org/citations/1827756" target="\_blank">1827756</a>, PubMed: <a href="http://www.uniprot.org/citations/1833066" target="\_blank">1833066</a>, PubMed: <a href="http://www.uniprot.org/citations/19412162" target="\_blank">19412162</a>, PubMed: <a href="http://www.uniprot.org/citations/8114739" target="\_blank">8114739</a>, PubMed: <a href="http://www.uniprot.org/citations/8302605" target="\_blank">8302605</a>). Hypophosphorylates RB1 in early G(1) phase (PubMed: <a href="http://www.uniprot.org/citations/1827756" target="\_blank">1827756</a>, PubMed: <a href="http://www.uniprot.org/citations/1833066" target="\_blank">1833066</a>, PubMed: <a href="http://www.uniprot.org/citations/19412162" target="\_blank">19412162</a>, PubMed: <a href="http://www.uniprot.org/citations/8114739" target="\_blank">8114739</a>, PubMed: <a href="http://www.uniprot.org/citations/8302605" target="\_blank">8302605</a>). Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals (PubMed: <a href="http://www.uniprot.org/citations/1827756" target="\_blank">1827756</a>, PubMed: <a href="http://www.uniprot.org/citations/1833066" target="\_blank">1833066</a>, PubMed: <a href="http://www.uniprot.org/citations/19412162" target="\_blank">19412162</a>, PubMed: <a href="http://www.uniprot.org/citations/8302605" target="\_blank">8302605</a>). Also a substrate for SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent manner and repressing its transcriptional activity (PubMed: <a href="http://www.uniprot.org/citations/15241418" target="\_blank">15241418</a>). Component of the ternary complex, cyclin D1/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex (PubMed: <a href="http://www.uniprot.org/citations/9106657" target="\_blank">9106657</a>). Exhibits transcriptional corepressor activity with INSM1 on the NEUROD1 and INS promoters in a cell cycle-independent manner (PubMed: <a href="http://www.uniprot.org/citations/16569215" target="\_blank">16569215</a>, PubMed: <a href="http://www.uniprot.org/citations/18417529" target="\_blank">18417529</a>).

### Cellular Location

Nucleus. Cytoplasm Nucleus membrane. Note=Cyclin D-CDK4 complexes accumulate at the

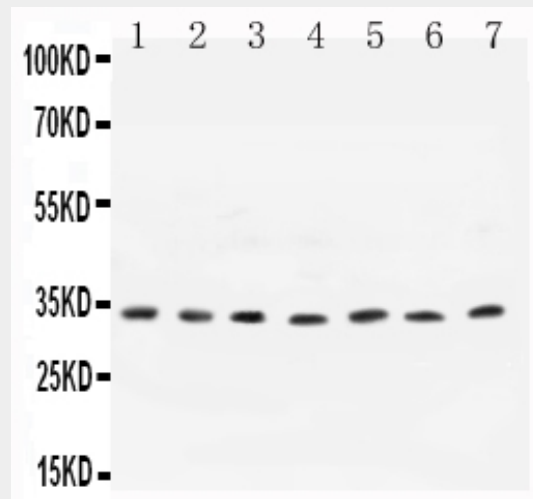
nuclear membrane and are then translocated to the nucleus through interaction with KIP/CIP family members

### Anti- Cyclin D1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti- Cyclin D1 Antibody - Images



Anti- Cyclin D1 antibody, ABO10620, All Western blotting  
All lanes: Anti-CCND1(ABO10620) at 0.5ug/ml  
Lane 1: Rat Testis Tissue Lysate at 40ug  
Lane 2: Human Placenta Tissue Lysate at 40ug  
Lane 3: Rat Brain Tissue Lysate at 40ug  
Lane 4: MCF-7 Whole Cell Lysate at 40ug  
Lane 5: COLO320 Whole Cell Lysate at 40ug  
Lane 6: SW620 Whole Cell Lysate at 40ug  
Lane 7: MM231 Whole Cell Lysate at 40ug  
Predicted bind size: 33KD  
Observed bind size: 33KD

### Anti- Cyclin D1 Antibody - Background

Cyclin D1, also known as CCND1, is a human gene. 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. Cyclin D1 encodes the regulatory subunit of a holoenzyme that phosphorylates and inactivates the retinoblastoma protein and promotes progression through the G1-S phase of the cell cycle. Amplification or overexpression of cyclin D1 plays pivotal roles in the development of a subset of human cancers including parathyroid adenoma, breast cancer, colon cancer, lymphoma, melanoma, and prostate cancer. The cyclin D1 gene is overexpressed in human breast cancers and is required for oncogene-induced tumorigenesis. Brisken et al. (2003) found that prolactin (PRL; 176760) induced IGF2 (147470) mRNA and IGF2 induced cyclin D1 protein expression in mouse mammary epithelial cultures. And they also concluded that IGF2 is a mediator of prolactin-induced alveologenesis and that prolactin, IGF2, and cyclin D1 are components of a developmental pathway in mammary gland.