

Rabbit Cyclin D1 Polyclonal Antibody | anti-CCND1 antibody

Cyclin D1 Antibody

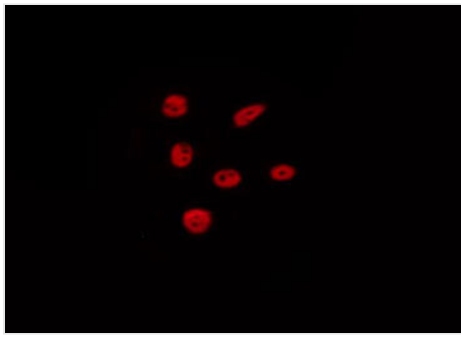
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326159	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

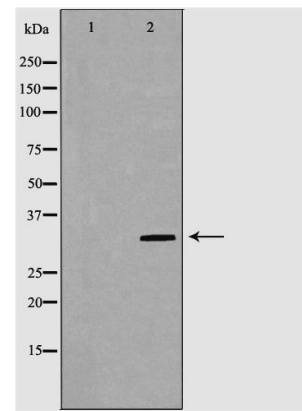
Cyclin D1; Polyclonal Antibody; Cyclin D1 Antibody; A1327039; B cell CLL/lymphoma 1; B cell leukemia 1; B cell lymphoma 1 protein; B-cell lymphoma 1 protein; BCL 1; BCL-1; BCL-1 oncogene; BCL1; BCL1 oncogene; ccnd1; CCND1/FSTL3 fusion gene; included; CCND1/IGHG1 fusion gene; CCND1/IGLC1 fusion gene; CCND1/PTH fusion gene; CCND1_HUMAN; cD1; Cyl 1; D11S287E; G1/S specific cyclin D1; G1/S-specific cyclin-D1; Parathyroid adenomatosis 1; PRAD1; PRAD1 oncogene; U21B31; anti-CCND1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Cyclin D1 antibody detects endogenous levels of total Cyclin D1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	295
Applicable Applications for anti-CCND1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Cyclin D1
Subcellular Location	Nucleus.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

**IF (Immunofluorescence)**

AAA326159 staining HepG2 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

**WB (Western Blot)**

Western blot analysis of extracts of MCF-7, using Cyclin D1 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CCND1 antibody

Description: Activity of the cyclin-dependent kinases CDK4 and CDK6 is regulated by T-loop phosphorylation, by the abundance of their cyclin partners (the D-type cyclins), and by association with CDK inhibitors of the Cip/Kip or INK family of proteins (1). The inactive ternary complex of cyclin D/CDK4 and p27 Kip1 requires extracellular mitogenic stimuli for the release and degradation of p27 concomitant with a rise in cyclin D levels to affect progression through the restriction point and Rb-dependent entry into S-phase (2). The active complex of cyclin D/CDK4 targets the retinoblastoma protein for phosphorylation, allowing the release of E2F transcription factors that activate G1/S-phase gene expression (3). Levels of cyclin D protein drop upon withdrawal of growth factors through downregulation of protein expression and phosphorylation-dependent degradation (4). Of the three D cyclins, aberrant expression of cyclin D1 has been associated with many forms of cancer including B cell lymphomas and can directly contribute to oncogenesis by various mechanisms including gene translocation or amplification (2). Cyclin D1 also plays a critical role in mammary tissue maturation (5).

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 G1/S transition. 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 G1 phase. Hypophosphorylates RB1 in early G1 phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Also substrate for SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent manner and repressing its transcriptional activity. Component of the ternary complex, cyclin D1/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex. Exhibits transcriptional corepressor activity with INSM1 on the NEUROD1 and INS promoters in a cell cycle-independent manner.

Subunit Structure: Interacts with FBXO4 (By similarity). Interacts with either CDK4 or CDK6 protein kinase to form a serine/threonine kinase holoenzyme complex. The cyclin subunit imparts substrate specificity to the complex. Component of the ternary complex CCND1/CDK4/CDKN1B required for nuclear translocation and modulation of CDK4-mediated kinase activity. Interacts directly with CDKN1B. Interacts with UHRF2; the interaction ubiquitinates CCND1 and appears to occur independently of phosphorylation. Can form similar complexes with either CDKN1A or CDKN2A. Interacts with USP2. Interacts (via cyclin N-terminal domain) with INSM1 (via N-terminal region); the interaction competes with the binding of CCND1 to CDK4 during cell cycle progression and inhibits CDK4 activity. Interacts with CDK4; the interaction is prevented with the binding of CCND1 to INSM1 during cell cycle progression. **Post-translational Modifications:** Phosphorylation at Thr-286 by MAP kinases is required for ubiquitination and degradation following DNA damage. It probably plays an essential role for recognition by the FBXO31 component of SCF (SKP1-cullin-F-box) protein ligase complex. Ubiquitinated, primarily as 'Lys-48'-linked polyubiquitination. Ubiquitinated by a SCF (SKP1-CUL1-F-box protein) ubiquitin-protein ligase complex containing FBXO4 and CRYAB. Following DNA damage it is ubiquitinated by some SCF (SKP1-cullin-F-box) protein ligase complex containing FBXO31. SCF-type ubiquitination is dependent on Thr-286 phosphorylation (By similarity). Ubiquitinated also by UHRF2 apparently in a phosphorylation-independent manner. Ubiquitination leads to its degradation and G1 arrest. Deubiquitinated by USP2; leading to its stabilization.

Similarity: Belongs to the cyclin family. Cyclin D subfamily.

References	Zhao Y, Wei A, Zhang H, Chen X, Wang L, Zhang H, Yu X, Yuan Q, Zhang J, Wang S; Journal: Oncogenesis. a2, 6-Sialylation mediates hepatocellular carcinoma growth in vitro and in vivo by targeting the Wnt/beta-catenin pathway.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	16950655
NCBI GeneID	595
NCBI Accession #	NP_444284.1
NCBI GenBank Nucleotide #	NM_053056.2
UniProt Accession #	P24385; Q6LEF0
Molecular Weight	Observed: 34 kDa Predicted: 34 kDa
NCBI Official Full Name	G1/S-specific cyclin-D1
NCBI Official Synonym Full Names	cyclin D1
NCBI Official Symbol	CCND1
NCBI Official Synonym Symbols	BCL1; PRAD1; U21B31; D11S287E
NCBI Protein Information	G1/S-specific cyclin-D1
UniProt Protein Name	G1/S-specific cyclin-D1
UniProt Gene Name	CCND1
UniProt Synonym Gene Names	BCL1; PRAD1; BCL-1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/cyclin-d1-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/326159>