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Cyclin D1 Rabbit pAb

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Catalog # AP50933

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P24385
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	33729
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Cyclin D1
Epitope Specificity	61-110/295
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus. Cytoplasm. Membrane. Note=CyclinD-CDK4 complexes accumulate at the nuclear membrane and are thentranslocated to the nucleus through interaction with KIP/CIP familymembers.
DISEASE	Note=A chromosomal aberration involving CCND1 may be acause of B-lymphocytic malignancy, particularly mantle-celllymphoma (MCL). Translocation t(11;14)(q13;q32) with immunoglobulingene regions. Activation of CCND1 may be oncogenic by directlyaltering progression through the cell cycle. Note=A chromosomal aberration involving CCND1 may be acause of parathyroid adenomas. Translocation t(11;11)(q13;p15) withthe parathyroid hormone (PTH) enhancer. Defects in CCND1 are a cause of multiple myeloma (MM)[MIM:254500]. MM is a malignant tumor of plasma cells usuallyarising in the bone marrow and characterized by diffuse involvementof the skeletal system, hyperglobulinemia, Bence-Jones proteinuriaand anemia. Complications of multiple myeloma are bone pain,hypercalcemia, renal failure and spinal cord compression. Theaberrant antibodies that are produced lead to impaired humoralimmunity and patients have a high prevalence of infection.Amyloidosis may develop in some patients. Multiple myeloma is partof a spectrum of diseases ranging from monoclonal gammopathy ofunknown significance (MGUS) to plasma cell leukemia. Note=Achromosomal aberration involving CCND1 is found in multiplemyeloma. Translocation t(11;14)(q13;q32) with the IgH locus.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 degradation 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 for cell cycle G1/S transition. This protein has been shown to interact with tumor suppressor protein Rb and the expression

of this gene is regulated positively by Rb. Mutations, amplification and overexpression of this gene, which alters cell cycle progression, are observed frequently in a variety of tumors and may contribute to tumorigenesis. [provided by RefSeq, Jul 2008].

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 {ECO:0000303|PubMed:8204893, ECO:0000312|HGNC:HGNC:1582}
Dilution	WB=1:500-2000,IHC-P=1:50-200,ICC/IF=1:50-200,Flow-Cyt=1:50-100,IHC-F=1:50-200,IF=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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:1827756, PubMed:1833066, PubMed:19412162, PubMed:33854235, PubMed:8114739, PubMed:8302605). 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:1827756, PubMed:1833066, PubMed:19412162, PubMed:8114739, PubMed:8302605). Hypophosphorylates RB1 in early G(1) phase (PubMed:1827756, PubMed:1833066, PubMed:19412162, PubMed:8114739, PubMed:8302605). Cyclin D-CDK4 complexes are major integrators of various mitogenenic and antimitogenic signals (PubMed:1827756, PubMed:1833066, PubMed:19412162, PubMed:8302605). Also a substrate for SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent manner and repressing its transcriptional activity (PubMed:15241418). Component of the ternary complex, cyclin D1/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex (PubMed:9106657). Exhibits transcriptional corepressor activity with INSM1 on the NEUROD1 and INS promoters in a cell cycle-independent manner (PubMed:16569215, PubMed:18417529).
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

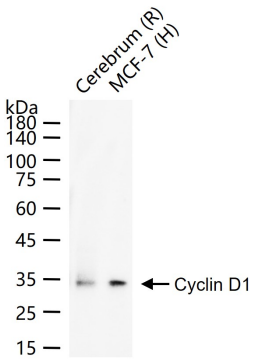
Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

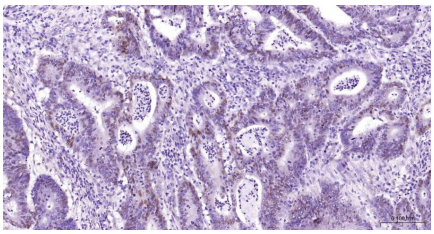
References

Motokura T.,et al.Nature 350:512-515(1991).
Lew D.J.,et al.Cell 66:1197-1206(1991).
Xiong Y.,et al.Cell 65:691-699(1991).
Withers D.A.,et al.Mol. Cell. Biol. 11:4846-4853(1991).
Rimokh R.,et al.Blood 83:3689-3696(1994).

Images



25 ug total protein per lane of various lysates (see on figure) probed with Cyclin D1 polyclonal antibody, unconjugated (AP50933) at 1:2000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.



Paraformaldehyde-fixed, paraffin embedded Human Colon Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with Cyclin D1 Polyclonal Antibody, Unconjugated (AP50933) at 1:200 overnight at 4°C, followed by conjugation to the AP50933-HRP and DAB (C-0010) staining.

Citations

- Elucidating the role of the FoxO3a transcription factor in the IGF-1-induced migration and invasion of uveal melanoma cancer cells.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.