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Cyclin D1 Antibody (S90) Blocking Peptide

Synthetic peptide
Catalog # BP2612d

Specification

Cyclin D1 Antibody (S90) Blocking Peptide - Product Information

Primary Accession P24385

Cyclin D1 Antibody (S90) Blocking Peptide - 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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2612d was selected from the S90 region of human Cyclin D1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Cyclin D1 Antibody (S90) Blocking Peptide - 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:1833066, PubMed:1827756, PubMed:8114739, PubMed:8302605, PubMed:19412162, PubMed:33854235). 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/1833066" target="_blank">1833066, PubMed:1827756, PubMed:8114739, PubMed:8302605, PubMed:19412162). Hypophosphorylates RB1 in early G(1) phase (PubMed:1833066, PubMed:1827756, PubMed:8114739, PubMed:8302605, PubMed:19412162). Cyclin D-CDK4 complexes are major integrators of various mitogenenic and antimitogenic signals (PubMed:1833066, PubMed:1827756, PubMed:8302605, PubMed:19412162). 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

Cyclin D1 Antibody (S90) Blocking Peptide - Protocols

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

- Blocking Peptides

Cyclin D1 Antibody (S90) Blocking Peptide - Images

Cyclin D1 Antibody (S90) Blocking Peptide - Background

CCND1 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. Cyclin D1 forms a complex with and functions as a regulatory subunit of CDK4 or CDK6, whose activity is required for cell cycle G1/S transition. It 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 the gene encoding this protein, which alters cell cycle progression, are observed frequently in a variety of tumors and may contribute to tumorigenesis.

Cyclin D1 Antibody (S90) Blocking Peptide - References

He,Y.Y., Cancer Res. 68 (10), 3752-3758 (2008)Marsit,C.J., Clin. Cancer Res. 14 (8), 2371-2377 (2008)Caldon,C.E., Cancer Res. 68 (8), 3026-3036 (2008)