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CCND1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1412a

Product Information

Application	WB, E
Primary Accession	P24385
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3D8
Isotype	IgG1
Calculated MW	33729
Description	During each cell cycle cyclins undergo periodic accumulation and destruction. As key regulators of the cell cycle the cyclins control important transitions by acting as regulatory subunits of the Cdks. Early in the G1 phase of the cell cycle, cyclin D1 induction is followed by cyclin E induction. This sequential progression is marked early on in G1 by the activation of Cdk4 and in mid to late G1 by the activation of Cdk2 and the hyperphosphorylation of pRB. The final transition into S phase is thought to be dependent on the increased expression and association of cyclin E and Cdk2. In a recent study, Cyclin D1 regulates cellular metabolism, fat cell differentiation and cellular migration. Cyclin D1 is also involved in development and cancer. Cyclin D1 has also been linked to the development and progression of several cancers including breast, bladder, esophagus, and lung.
Immunogen	Purified recombinant fragment of human CCND1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

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
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CCND1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

References

1. J Orthop Sci. 2009 Sep;14(5):623-30. 2. Mod Pathol. 2010 Feb;23(2):225-34.

Images

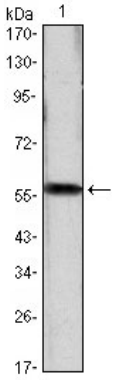

Figure 1: Western blot analysis using CCND1 mAb against CCND1(AA: 1-295)-hIgGFc transfected HEK293 cell lysate.