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Mouse Monoclonal Antibody to CCND1

Purified Mouse Monoclonal Antibody
Catalog # AO2466a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P24385
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3B6G3
Isotype	Mouse IgG1
Calculated MW	33729
Description	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.;
Immunogen	Purified recombinant fragment of human CCND1 (AA: 167-295) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide
Application Note	ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; ICC: 1/100 - 1/500; FCM: 1/200 - 1/400

Additional Information

Gene ID	595
Other Names	BCL1; PRAD1; U21B31; D11S287E
Dilution	WB~~1:1000 IHC~~1:100~500 FC~~1:10~50 ICC~~N/A 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	Mouse Monoclonal Antibody to CCND1 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}

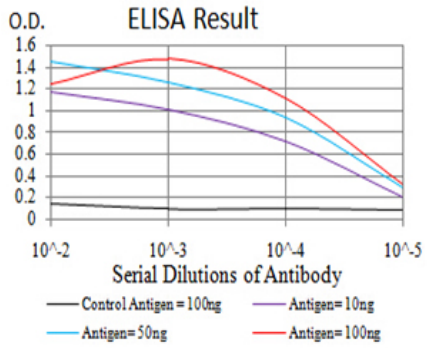
Function Regulatory component of the cyclin D1-CDK4 (DC) complex that phosphorylates and inhibits members of the retinoblastoma (RB) protein family including RB1 and regulates the cell-cycle during G(1)/S transition (PubMed:1827756, PubMed:1833066, PubMed:19412162, PubMed:33854235, PubMed:8114739, PubMed:8302605). 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

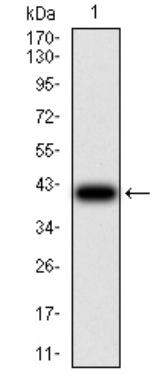
1.BMC Cancer. 2015 Apr 11;15:262. ; 2.Tumour Biol. 2015 Aug;36(8):6533-40. ;

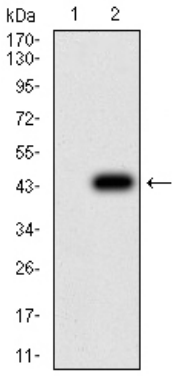
Images



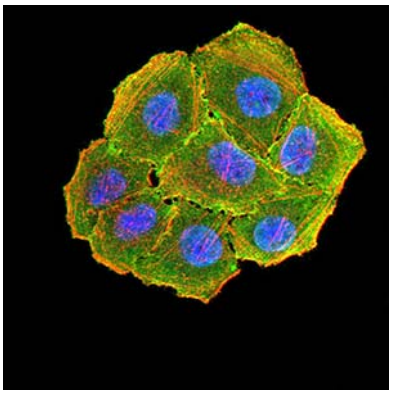
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

Western blot analysis using CCND1 mAb against human CCND1 (AA: 167-295) recombinant protein. (Expected MW is 40.1 kDa)

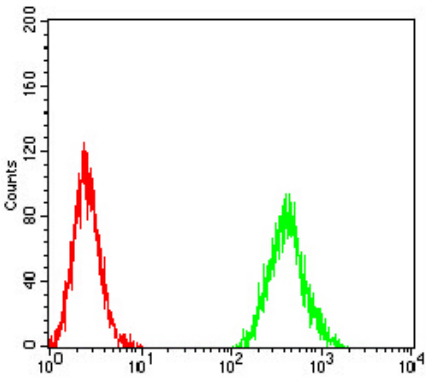




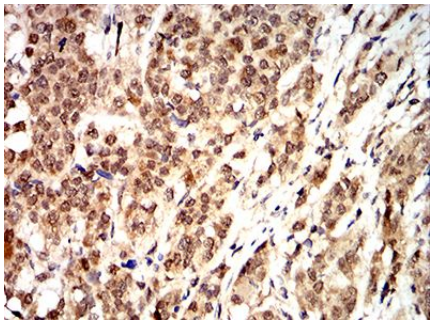
Western blot analysis using CCND1 mAb against HEK293 (1) and CCND1 (AA: 167-295)-hIgGFc transfected HEK293 (2) cell lysate.



Immunofluorescence analysis of Hela cells using CCND1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher



Flow cytometric analysis of MCF-7 cells using CCND1 mouse mAb (green) and negative control (red).



Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using CCND1 mouse mAb with DAB staining.

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