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Cyclin D1 (G1-Cyclin & Mantle Cell Marker) Antibody

Mouse Monoclonal Antibody [Clone SPM587]
Catalog # AH12236

Product Information

Application	FC
Primary Accession	P24385
Other Accession	595, 523852, 667996
Reactivity	Human, Mouse, Rat, Monkey
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Clone Names	SPM587
Calculated MW	33729

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
Application Note	FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Cyclin D1 (G1-Cyclin & Mantle Cell Marker) 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

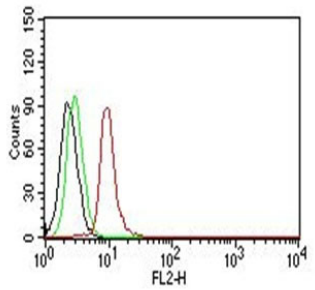
Background

Recognizes a protein of 36kDa, identified as cyclin D1. Cyclin D1, one of the key cell cycle regulators, is a putative proto-oncogene overexpressed in a wide variety of human neoplasms. This antibody neutralizes the activity of cyclin D1 in vivo. About 60% of mantle cell lymphomas (MCL) contain a t(11; 14)(q13; q32) translocation resulting in over-expression of cyclin D1. This antibody is useful in identifying mantle cell lymphomas (cyclin D1 positive) from CLL/SLL and follicular lymphomas (cyclin D1 negative). Occasionally, hairy cell leukemia and plasma cell myeloma weakly express Cyclin D1.

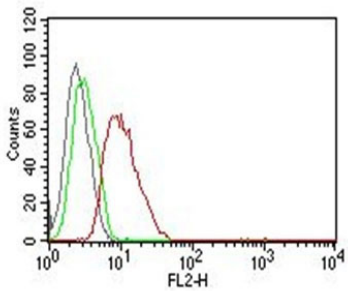
References

Lukas J, et. al. Oncogene, 1994, 9(3):707-18. | Gillett C, et. al. Cancer Research, 1994, 54(7):1812-7. | Bartkova J, et. al. Journal of Pathology, 1994, 172(3):237-45

Images



Flow Cytometry of human Cyclin D1 on Jurkat Cells. Black: Cells alone; Green: Isotype Control; Red: PE-labeled Cyclin D1 Monoclonal Antibody (SPM587).



Flow Cytometry of human Cyclin D1 on MCF-7 Cells. Black: Cells alone; Green: Isotype Control; Red: PE-labeled Cyclin D1 Monoclonal Antibody (SPM587).

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