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Cyclin D1 (G1-Cyclin & Mantle Cell Marker) Antibody
Mouse Monoclonal Antibody [Clone SPM587]
Catalog # AH12236

Specification

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

Application	**,4,**
Primary Accession	P24385
Other Accession	595, 523852, 667996
Reactivity	**Human, Mouse, Rat, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse / IgG2a, kappa**
Calculated MW	**36kDa KDa**

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

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.

Cyclin D1 (G1-Cyclin & Mantle Cell Marker) Antibody - 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:1833066, PubMed:1827756, PubMed:<a

href="http://www.uniprot.org/citations/8114739" target="_blank">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

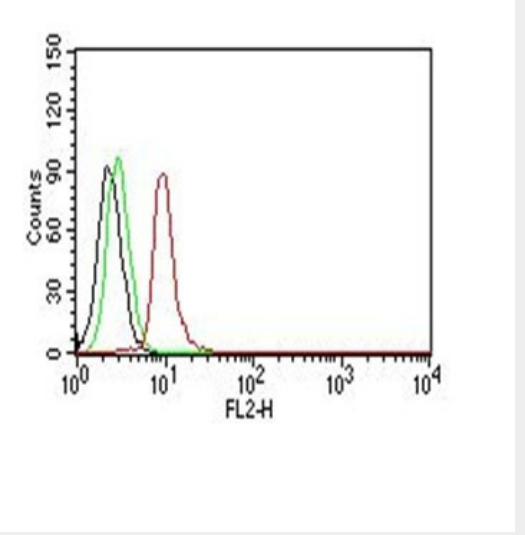
Cyclin D1 (G1-Cyclin & Mantle Cell Marker) Antibody - Protocols

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

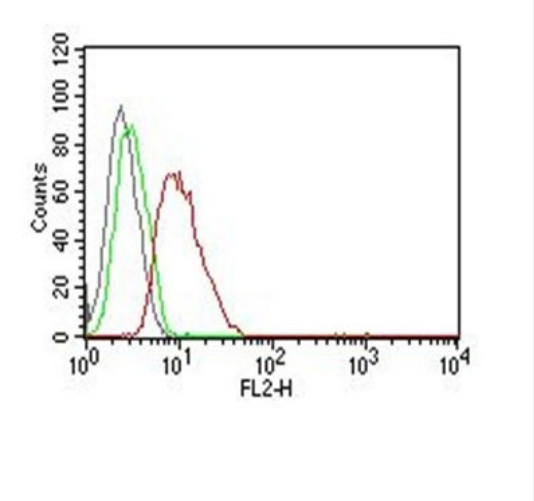
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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

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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).

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

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