

cyclin D1 (6D328): sc-70899

BACKGROUND

The proliferation of eukaryotic cells is controlled at specific points in the cell cycle, particularly at the G₁ to S and the G₂ to M transitions. It is well established that the Cdc2 p34-cyclin B protein kinase plays a critical role in the G₂ to M transition, while cyclin A associates with Cdk2 p33 and functions in S phase. Considerable effort directed towards the identification of G₁ cyclins has led to the isolation of cyclin D, cyclin C and cyclin E. Of these, cyclin D corresponds to a putative human oncogene, designated PRAD1, which maps at the site of the Bcl-1 rearrangement in certain lymphomas and leukemias. Two additional human type D cyclins, as well as their mouse homologs, have been identified. Evidence has established that members of the cyclin D family function to regulate phosphorylation of the retinoblastoma gene product, thereby activating E2F transcription factors.

REFERENCES

1. Draetta, G. 1990. Cell cycle control in eukaryotes: molecular mechanisms of Cdc2 activation. *Trends Biol. Sci.* 15: 378-383.
2. Xiong, Y., et al. 1991. Human D-type cyclin. *Cell* 65: 691-699.

CHROMOSOMAL LOCATION

Genetic locus: CCND1 (human) mapping to 11q13.3; Ccnd1 (mouse) mapping to 7 F5.

SOURCE

cyclin D1 (6D328) is a mouse monoclonal antibody raised against full length cyclin D1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin D1 (6D328) is recommended for detection of cyclin D1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for cyclin D1 siRNA (h): sc-29286, cyclin D1 siRNA (m): sc-29287, cyclin D1 shRNA Plasmid (h): sc-29286-SH, cyclin D1 shRNA Plasmid (m): sc-29287-SH, cyclin D1 shRNA (h) Lentiviral Particles: sc-29286-V and cyclin D1 shRNA (m) Lentiviral Particles: sc-29287-V.

Molecular Weight of cyclin D1: 37 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, C32 nuclear extract: sc-2136 or KNRK nuclear extract: sc-2141.

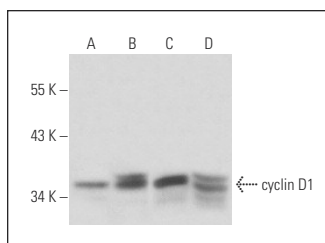
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



cyclin D1 (6D328): sc-70899. Western blot analysis of cyclin D1 expression in C32 (A), KNRK (B) and MCF7 (C) nuclear extracts and C6 whole cell lysate (D).

SELECT PRODUCT CITATIONS

1. Zhang, Z., et al. 2006. Rap1GAP inhibits tumor growth in oropharyngeal squamous cell carcinoma. *Am. J. Pathol.* 168: 585-596.
2. Buhrmann, C., et al. 2014. Curcumin suppresses crosstalk between colon cancer stem cells and stromal fibroblasts in the tumor microenvironment: potential role of EMT. *PLoS ONE* 9: e107514.
3. Wang, Y., et al. 2015. Autocrine motility factor receptor promotes the proliferation of human acute monocytic leukemia THP-1 cells. *Int. J. Mol. Med.* 36: 627-632.
4. Jiang, C., et al. 2016. TNF- α induces vascular endothelial cells apoptosis through overexpressing pregnancy induced noncoding RNA in Kawasaki disease model. *Int. J. Biochem. Cell Biol.* 72: 118-124.
5. Peng, Y.T., et al. 2016. Particularly interesting Cys-His-rich protein is highly expressed in human intracranial aneurysms and resists aneurysmal rupture. *Exp. Ther. Med.* 12: 3905-3912.
6. Akbarnejad, Z., et al. 2016. Effects of extremely low-frequency pulsed electromagnetic fields (ELF-PEMFs) on glioblastoma cells (U87). *Electromagn. Biol. Med.* 22: 1-10.
7. Du, D.S., et al. 2016. Effects of CDC42 on the proliferation and invasion of gastric cancer cells. *Mol. Med. Rep.* 13: 550-554.
8. Zheng, L., et al. 2017. Benzoquinone from *Fusarium* pigment inhibits the proliferation of estrogen receptor-positive MCF-7 cells through the NF κ B pathway via estrogen receptor signaling. *Int. J. Mol. Med.* 39: 39-46.
9. Li, S., et al. 2017. HDAC2 regulates cell proliferation, cell cycle progression and cell apoptosis in esophageal squamous cell carcinoma EC9706 cells. *Oncol. Lett.* 13: 403-409.

CONJUGATES

See **cyclin D1 (A-12): sc-8396** for cyclin D1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.