

cyclin D2 (SPM388): sc-65551

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 Biochem. Sci.* 15: 378-383.
2. Xiong, Y., et al. 1991. Human D-type cyclin. *Cell* 65: 691-699.
3. Kiyokawa, H., et al. 1992. Cloning of a D-type cyclin from murine erythroleukemia cells. *Proc. Natl. Acad. Sci. USA* 89: 2444-2447.
4. Won, K., et al. 1992. Growth-regulated expression of D-type cyclin genes in human diploid fibroblasts. *Proc. Natl. Acad. Sci. USA* 89: 9910-9914.
5. Motokura, T., et al. 1992. Cloning and characterization of human cyclin D3, a cDNA closely related in sequence to the PRAD1/cyclin D1 proto-oncogene. *J. Biol. Chem.* 267: 20412-20415.
6. Inaba, T., et al. 1992. Genomic organization, chromosomal localization, and independent expression of human cyclin D genes. *Genomics* 13: 565-574.
7. Xiong, Y., et al. 1992. Molecular cloning and chromosomal mapping of CCND genes encoding human D-type cyclins. *Genomics* 13: 575-584.
8. Ewen, M.E., et al. 1993. Functional interactions of the retinoblastoma protein with mammalian D-type cyclins. *Cell* 73: 487-497.
9. Dowdy, S.F., et al. 1993. Physical interaction of the retinoblastoma protein with human D cyclins. *Cell* 73: 499-511.

CHROMOSOMAL LOCATION

Genetic locus: CCND2 (human) mapping to 12p13.32; Ccnd2 (mouse) mapping to 6 F3.

SOURCE

cyclin D2 (SPM388) is a mouse monoclonal antibody raised against full length recombinant cyclin D2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

cyclin D2 (SPM388) is recommended for detection of cyclin D2 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin D2 siRNA (h): sc-35134, cyclin D2 siRNA (m): sc-35135, cyclin D2 shRNA Plasmid (h): sc-35134-SH, cyclin D2 shRNA Plasmid (m): sc-35135-SH, cyclin D2 shRNA (h) Lentiviral Particles: sc-35134-V and cyclin D2 shRNA (m) Lentiviral Particles: sc-35135-V.

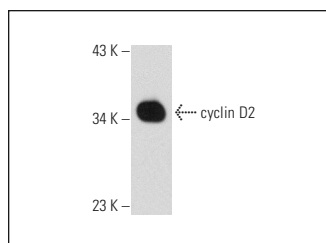
Molecular Weight of cyclin D2: 34 kDa.

Positive Controls: MM-142 nuclear extract: sc-2139 or SP2/0 whole cell lysate: sc-364795.

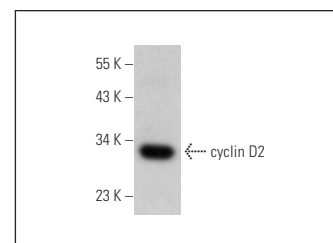
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



cyclin D2 (SPM388): sc-65551. Western blot analysis of cyclin D2 expression in MM-142 nuclear extract.



cyclin D2 (SPM388): sc-65551. Western blot analysis of cyclin D2 expression in SP2/0 whole cell lysate.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **cyclin D2 (B-6): sc-376676** for cyclin D2 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.