SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin D2 (A-1): sc-166288

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The proliferation of eukaryotic cells is controlled at specific points in the cell cycle, particularly at the G_1 to S and the G_2 to M transitions. It is well established that the Cdc2 p34-cyclin B protein kinase plays a critical role in the G_2 to M transition while cyclin A associates with Cdk2 p33 and functions in S phase. Considerable effort directed towards the identification of G_1 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. Inaba, T., et al. 1992. Genomic organization, chromosomal localization, and independent expression of human cyclin D genes. Genomics 13: 565-574.
4. Xiong, Y., et al. 1992. Molecular cloning and chromosomal mapping of CCND genes encoding human D-type cyclins. Genomics 13: 575-584.
5. Kiyokawa, H., et al. 1992. Cloning of a D-type cyclin from murine erythroleukemia cells. Proc. Natl. Acad. Sci. USA 89: 2444-2447.
6. 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.
7. 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.
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.

SOURCE

cyclin D2 (A-1) is a mouse monoclonal antibody raised against amino acids 1-289 representing full length cyclin D2 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

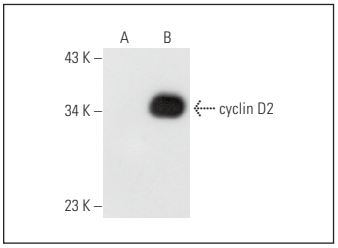
cyclin D2 (A-1) is recommended for detection of cyclin D2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 shRNA Plasmid (h): sc-35134-SH and cyclin D2 shRNA (h) Lentiviral Particles: sc-35134-V.

Molecular Weight of cyclin D2: 34 kDa.

Positive Controls: cyclin D2 (h): 293T Lysate: sc-111616.

DATA



cyclin D2 (A-1): sc-166288. Western blot analysis of cyclin D2 expression in non-transfected: sc-117752 (**A**) and human cyclin D2 transfected: sc-111616 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Perry, M.C., et al. 2014. ERBB2 deficiency alters an E2F-1-dependent adaptive stress response and leads to cardiac dysfunction. Mol. Cell. Biol. 34: 4232-4243.

RESEARCH USE

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

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, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.