SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin D2 (M-20): sc-593

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 Bcl1 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.

CHROMOSOMAL LOCATION

Genetic locus: Ccnd2 (mouse) mapping to 6 F3, Ccnd1 (mouse) mapping to 7 F5.

SOURCE

cyclin D2 (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of cyclin D2 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-593 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cyclin D2 (M-20) is recommended for detection of cyclin D2 and, to a lesser extent, cyclin D1 of mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with cyclin D3.

Molecular Weight of cyclin D2: 34 kDa.

Positive Controls: MM-142 nuclear extract: sc-2139.

STORAGE

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

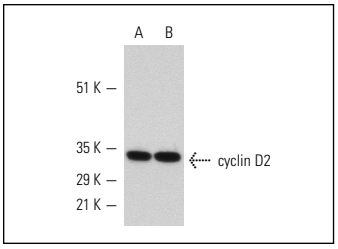
PROTOCOLS

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

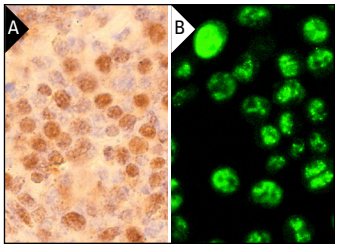
RESEARCH USE

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

DATA



cyclin D2 (M-20): sc-593. Western blot analysis of cyclin D2 expression in MM-142 nuclear extract (**A**,**B**).



cyclin D2 (M-20): sc-593. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse ovary (**A**) and immunofluorescence staining of methanol-fixed MM-142 cells (**B**) showing nuclear localization.

SELECT PRODUCT CITATIONS

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3. Bhatia, B., et al. 2011. Mitogenic Sonic hedgehog signaling drives E2F1-dependent lipogenesis in progenitor cells and medulloblastoma. Oncogene 30: 410-422.
4. Lu, J., et al. 2011. Reexpression of oncoprotein MafB in proliferative β-cells and Men1 Insulinomas in mouse. Oncogene 31: 3647-3654.
5. Ji, F., et al. 2012. BAFF induces spleen $CD4^+$ T cell proliferation by down-regulating phosphorylation of FOXO3A and activates cyclin D2 and D3 expression. Biochem. Biophys. Res. Commun. 425: 854-858.
6. Wahdan-Alaswad, R.S., et al. 2012. Inhibition of mTORC1 kinase activates Smads 1 and 5 but not Smad8 in human prostate cancer cells, mediating cytostatic response to rapamycin. Mol. Cancer Res. 10: 821-833.
7. Wang, X., et al. 2012. Combined effect of cyclin D3 expression and abrogation of cyclin D1 prevent mouse skin tumor development. Cell Cycle 11: 335-342.
8. Wafa, K., et al. 2013. Characterization of growth suppressive functions of a splice variant of cyclin D2. PLoS ONE 8: e53503.
9. Kazmi, S.J., et al. 2013. Transgenic mice overexpressing neuregulin-1 model neurofibroma-malignant peripheral nerve sheath tumor progression and implicate specific chromosomal copy number variations in tumorigenesis. Am. J. Pathol. 182: 646-667.