SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin D3 (H-292): sc-755

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.

SOURCE

cyclin D3 (H-292) is a rabbit polyclonal antibody raised against amino acids 1-292 representing full length cyclin D3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin D3 (H-292) is recommended for detection of cyclin D3, cyclin D1 and 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).

cyclin D3 (H-292) is also recommended for detection of cyclin D3, cyclin D1 and cyclin D2 in additional species, including canine, bovine and porcine.

Molecular Weight of cyclin D3: 33 kDa.

Positive Controls: cyclin D3 (m): 293T Lysate: sc-119546, HeLa + PMA nuclear extract: sc-2121 or Jurkat nuclear extract: sc-2132.

STORAGE

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

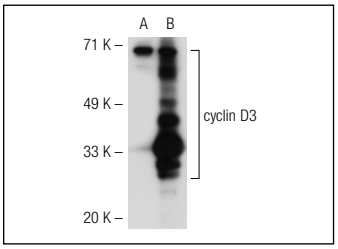
PROTOCOLS

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

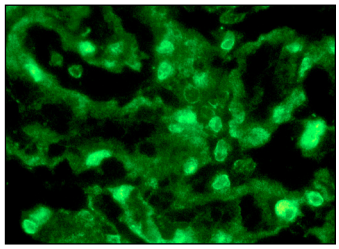
RESEARCH USE

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

DATA



cyclin D3 (H-292): sc-755. Western blot analysis of cyclin D3 expression in non-transfected: sc-117752 (**A**) and mouse cyclin D3 transfected: sc-119546 (**B**) 293T whole cell lysates.



cyclin D3 (H-292): sc-755. Immunofluorescence staining of normal mouse kidney frozen section showing cytoplasmic and nuclear staining.

SELECT PRODUCT CITATIONS

1. Chappell, D., et al. 1997. Prevention of apoptosis in J2E erythroid cells by erythropoietin: involvement of JAK2 but not MAP kinases. Cell Death Differ. 4: 105-113.
2. Tetsu, O., et al. 1998. mel-18 negatively regulates cell cycle progression upon B cell antigen receptor stimulation through a cascade leading to c-myc/cdc25. Immunity 9: 439-448.
3. Zhang, J., et al. 2001. FADD-deficient T cells exhibit a disaccord in regulation of the cell cycle machinery. J. Biol. Chem. 276: 29815-29818.
4. Bae, Y., et al. 2001. Differential regulation of cell cycle-related proteins by CD95 engagement in thymocytes and T cell leukemic cell line, Jurkat. J. Cell. Biochem. 80: 328-338.
5. Eapen, A.K., et al. 2001. DNA damage-induced G_1 arrest in hematopoietic cells is overridden following phosphatidylinositol 3-kinase-dependent activation of cyclin-dependent kinase 2. Mol. Cell. Biol. 21: 6113-6121.
6. Philipp-Staheli, J., et al. 2004. Distinct roles for p53, $p27^{Kip1}$, and $p21^{Cip1}$ during tumor development. Oncogene 23: 905-913.
7. Jackson, T.A., et al. 2006. Differential regulation of cell growth and gene expression by FGF-2 and FGF-4 in pituitary lactotroph GH4 cells. Mol. Cell. Endocrinol. 247: 183-191.
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