SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin D3 (DCS-28): sc-56308

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.

CHROMOSOMAL LOCATION

Genetic locus: CCND3 (human) mapping to 6p21.1; Ccnd3 (mouse) mapping to 17 C.

SOURCE

cyclin D3 (DCS-28) is a mouse monoclonal antibody raised against full length cyclin D3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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.

RESEARCH USE

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

APPLICATIONS

cyclin D3 (DCS-28) is recommended for detection of cyclin D3 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); non cross-reactive with other cyclin Ds.

Suitable for use as control antibody for cyclin D3 siRNA (h): sc-35136, cyclin D3 siRNA (m): sc-35137, cyclin D3 shRNA Plasmid (h): sc-35136-SH, cyclin D3 shRNA Plasmid (m): sc-35137-SH, cyclin D3 shRNA (h) Lentiviral Particles: sc-35136-V and cyclin D3 shRNA (m) Lentiviral Particles: sc-35137-V.

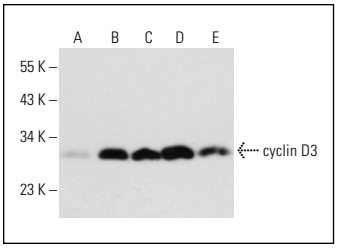
Molecular Weight of cyclin D3: 33 kDa.

Positive controls: cyclin D3 (m): 293T Lysate: sc-119546, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

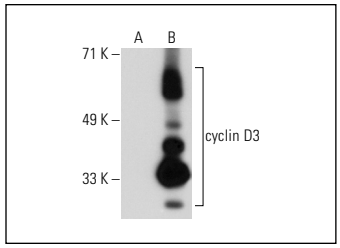
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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 D3 (DCS-28): sc-56308. Western blot analysis of cyclin D3 expression in K-562 (**A**), PMA treated K-562 (**B**), Jurkat (**C**), PMA treated Jurkat (**D**) and MOLT-4 (**E**) whole cell lysates.



cyclin D3 (DCS-28): sc-56308. 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.

SELECT PRODUCT CITATIONS

1. Depoortere, F., et al. 2000. Transforming growth factor β1 selectively inhibits the cyclic AMP-dependent proliferation of primary thyroid epithelial cells by preventing the association of cyclin D3-Cdk4 with nuclear $p27^{kip1}$. Mol. Biol. Cell 11: 1061-1076.
2. Hlobilkova, A., et al. 2006. Tumour suppressor PTEN regulates cell cycle and protein kinase B/Akt pathway in breast cancer cells. Anticancer Res. 26: 1015-1022.
3. Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. Mol. Cell. Proteomics 8: 245-257.
4. Elong Edimo, W., et al. 2014. SHIP2 signaling in normal and pathological situations: its impact on cell proliferation. Adv. Biol. Regul. 54: 142-151.
5. Kong, T., et al. 2019. eIF4A inhibitors suppress cell cycle feedback response and acquired resistance to Cdk4/6 inhibition in cancer. Mol. Cancer Ther. 18: 2158-2170.
6. Canu, V., et al. 2020. Aberrant transcriptional and post-transcriptional regulation of SPAG5, a YAP-TAZ-TEAD downstream effector, fuels breast cancer cell proliferation. Cell Death Differ. E-published.

CONJUGATES

See **cyclin D3 (D-7): sc-6283** for cyclin D3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.