

cyclin D3 (DCS-28): sc-56308

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.

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 IgG₁ 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.

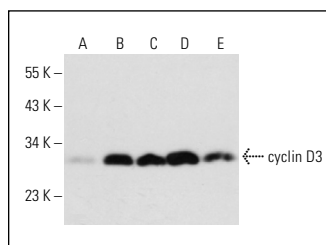
Molecular Weight of cyclin D3: 33 kDa.

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

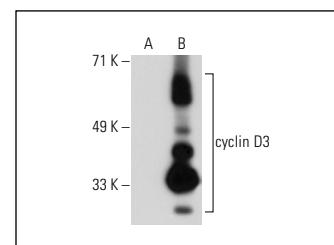
RECOMMENDED SUPPORT REAGENTS

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

- 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.
- 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.
- Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.
- Elong Edimo, W., et al. 2014. SHIP2 signaling in normal and pathological situations: its impact on cell proliferation. *Adv. Biol. Regul.* 54: 142-151.
- 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.
- Canu, V., et al. 2021. Aberrant transcriptional and post-transcriptional regulation of SPAG5, a YAP-TAZ-TEAD downstream effector, fuels breast cancer cell proliferation. *Cell Death Differ.* 28: 1493-1511.



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.