

cyclin D3 (18B6-10): sc-453

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 (18B6-10) is a rat monoclonal antibody raised against recombinant cyclin D3 protein of mouse origin.

PRODUCT

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

cyclin D3 (18B6-10) is available conjugated to agarose (sc-453 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-453 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-453 PE), fluorescein (sc-453 FITC), Alexa Fluor® 488 (sc-453 AF488), Alexa Fluor® 546 (sc-453 AF546), Alexa Fluor® 594 (sc-453 AF594) or Alexa Fluor® 647 (sc-453 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-453 AF680) or Alexa Fluor® 790 (sc-453 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

cyclin D3 (18B6-10) is recommended for detection of cyclin D3 p34 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

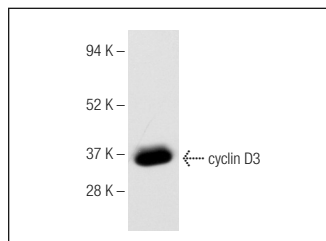
Molecular Weight of cyclin D3: 33 kDa.

Positive controls: Jurkat nuclear extract: sc-2132, Jurkat + PMA nuclear extract: sc-2133 or K-562 whole cell lysate: sc-2203.

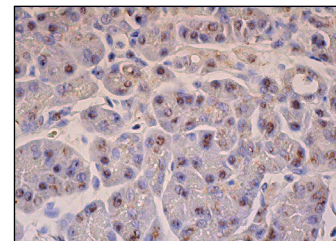
STORAGE

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

DATA



goat anti-rat IgG-HRP: sc-2065. Western blot analysis of cyclin D3 expression in PMA induced Jurkat nuclear extract. Antibody tested: cyclin D3 (18B6-10): sc-453.



cyclin D3 (18B6-10): sc-453. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of exocrine glandular cells.

SELECT PRODUCT CITATIONS

- Kranenburg, O., et al. 1995. Inhibition of cyclin-dependent kinase activity triggers neuronal differentiation of mouse neuroblastoma cells. *J. Cell Biol.* 131: 227-234.
- Glassford, J., et al. 2003. BCR targets cyclin D2 via Btk and the p85 α subunit of PI3-K to induce cell cycle progression in primary mouse B cells. *Oncogene* 22: 2248-2259.
- Glassford, J., et al. 2005. Phosphatidylinositol 3-kinase is required for the transcriptional activation of cyclin D2 in Bcr activated primary mouse B lymphocytes. *Eur. J. Immunol.* 35: 2748-2761.
- Soeiro, I., et al. 2006. p27 Kip1 and p130 cooperate to regulate hematopoietic cell proliferation *in vivo*. *Mol. Cell. Biol.* 26: 6170-6184.
- Filipczyk, A.A., et al. 2007. Differentiation is coupled to changes in the cell cycle regulatory apparatus of human embryonic stem cells. *Stem Cell Res.* 1: 45-60.
- Shi, M.D., et al. 2008. Inhibition of cell-cycle progression in human colorectal carcinoma Lovo cells by andrographolide. *Chem. Biol. Interact.* 174: 201-210.
- Selma Dagtas, A. and Gilbert, K.M. 2010. p21^{Cip1} up-regulated during histone deacetylase inhibitor-induced CD4⁺ T-cell anergy selectively associates with mitogen-activated protein kinases. *Immunology* 129: 589-599.
- O'Hara, J., et al. 2012. AIB1:ER α transcriptional activity is selectively enhanced in aromatase inhibitor-resistant breast cancer cells. *Clin. Cancer Res.* 18: 3305-3315.
- Díaz-López, I., et al. 2019. An mRNA-binding channel in the ES6S region of the translation 48S-PIC promotes RNA unwinding and scanning. *Elife* 8: e48246.

RESEARCH USE

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