

cyclin D3 (D-7): sc-6283



The Power to Question

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. 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 (D-7) is a mouse monoclonal antibody raised against amino acids 1-292 representing 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.

cyclin D3 (D-7) is available conjugated to agarose (sc-6283 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6283 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6283 PE), fluorescein (sc-6283 FITC), Alexa Fluor® 488 (sc-6283 AF488), Alexa Fluor® 546 (sc-6283 AF546), Alexa Fluor® 594 (sc-6283 AF594) or Alexa Fluor® 647 (sc-6283 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6283 AF680) or Alexa Fluor® 790 (sc-6283 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, cyclin D3 (D-7) is available conjugated to TRITC (sc-6283 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

cyclin D3 (D-7) 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), 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).

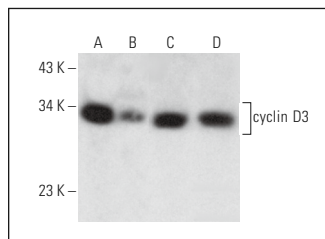
Suitable for use as control antibody for cyclin D3 siRNA (h): sc-35136, cyclin D3 siRNA (m): sc-35137, cyclin D3 shRNA Plasmid (h): sc-35136-SH, cyclin D3 shRNA Plasmid (m): sc-35137-SH, cyclin D3 shRNA (h) Lentiviral Particles: sc-35136-V and cyclin D3 shRNA (m) Lentiviral Particles: sc-35137-V.

Molecular Weight of cyclin D3: 33 kDa.

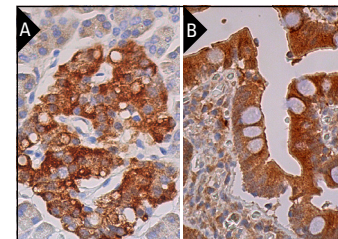
Positive Controls: K-562 whole cell lysate: sc-2203.

STORAGE

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

DATA

cyclin D3 (D-7): sc-6283. Western blot analysis of cyclin D3 expression in K-562 (A), MDA-MB-231 (B), NIH/3T3 (C) and C6 (D) whole cell lysates.



cyclin D3 (D-7): sc-6283. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Lee, I.H., et al. 1999. Inhibition of interleukin 2 signaling and signal transducer and activator of transcription (Stat)5 activation during T cell receptor-mediated feedback inhibition of T cell expansion. *J. Exp. Med.* 190: 1263-1274.
- Korgun, E.T., et al. 2011. Mapping of CIP/KIP inhibitors, G₁ cyclins D1, D3, E and p53 proteins in the rat term placenta. *Histochem. Cell Biol.* 136: 267-278.
- Sankaran, V.G., et al. 2012. Cyclin D3 coordinates the cell cycle during differentiation to regulate erythrocyte size and number. *Genes Dev.* 26: 2075-2087.
- Cho, J.H., et al. 2013. Unique features of naive CD8⁺ T cell activation by IL-2. *J. Immunol.* 191: 5559-5573.
- Kunter, I., et al. 2014. Active form of AKT controls cell proliferation and response to apoptosis in hepatocellular carcinoma. *Oncol. Rep.* 31: 573-580.
- Er, H., et al. 2015. Determination of PCNA, cyclin D3, p27, p57 and apoptosis rate in normal and dexamethasone-induced intrauterine growth restricted rat placentas. *Acta Histochem.* 117: 137-147.
- Lagarrigue, S., et al. 2016. Cdk4 is an essential Insulin effector in adipocytes. *J. Clin. Invest.* 126: 335-348.
- Bacevic, K., et al. 2017. Cdk2 strengthens the intra-S checkpoint and counteracts cell cycle exit induced by DNA damage. *Sci. Rep.* 7: 13429.
- Blanca, A., et al. 2019. Expression of miR-100 and miR-138 as prognostic biomarkers in non-muscle-invasive bladder cancer. *APMIS* 127: 545-553.

RESEARCH USE

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

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