

cyclin D2 (DCS-5): sc-53637



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 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: CCND2 (human) mapping to 12p13.32; Ccnd2 (mouse) mapping to 6 F3.

SOURCE

cyclin D2 (DCS-5) is a mouse monoclonal antibody raised against full length cyclin D2 of human origin.

PRODUCT

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

cyclin D2 (DCS-5) is available conjugated to agarose (sc-53637 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53637 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53637 PE), fluorescein (sc-53637 FITC), Alexa Fluor® 488 (sc-53637 AF488), Alexa Fluor® 546 (sc-53637 AF546), Alexa Fluor® 594 (sc-53637 AF594) or Alexa Fluor® 647 (sc-53637 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53637 AF680) or Alexa Fluor® 790 (sc-53637 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

cyclin D2 (DCS-5) is recommended for detection of 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin D2 siRNA (h): sc-35134, cyclin D2 siRNA (m): sc-35135, cyclin D2 shRNA Plasmid (h): sc-35134-SH, cyclin D2 shRNA Plasmid (m): sc-35135-SH, cyclin D2 shRNA (h) Lentiviral Particles: sc-35134-V and cyclin D2 shRNA (m) Lentiviral Particles: sc-35135-V.

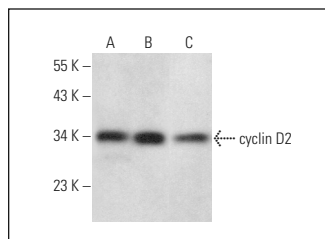
Molecular Weight of cyclin D2: 34 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, EOC 20 whole cell lysate: sc-364187 or cyclin D2 (h): 293T Lysate: sc-111616.

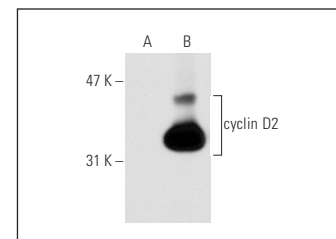
STORAGE

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

DATA



cyclin D2 (DCS-5): sc-53637. Western blot analysis of cyclin D2 expression in NIH/3T3 (A), EOC 20 (B) and U-251-MG (C) whole cell lysates.



cyclin D2 (DCS-5): sc-53637. Western blot analysis of cyclin D2 expression in non-transfected: sc-117752 (A) and human cyclin D2 transfected: sc-111616 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

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- Wang, X.H., et al. 2011. Effects of berberine on human rheumatoid arthritis fibroblast-like synoviocytes. *Exp. Biol. Med.* 236: 859-866.
- Asher, J.M., et al. 2012. Prolactin promotes mammary pathogenesis independently from cyclin D1. *Am. J. Pathol.* 181: 294-302.
- Witt, D., et al. 2013. Valproic acid inhibits the proliferation of cancer cells by re-expressing cyclin D2. *Carcinogenesis* 34: 1115-1124.
- Mirzaa, G.M., et al. 2014. *De novo* CCND2 mutations leading to stabilization of cyclin D2 cause megalencephaly-polymicrogyria-polydactyly-hydrocephalus syndrome. *Nat. Genet.* 46: 510-515.
- Sarajini, S., et al. 2015. A combination of high dose rate (10X FFF/2400 MU/min/10 MV X-rays) and total low dose (0.5 Gy) induces a higher rate of apoptosis in melanoma cells *in vitro* and superior preservation of normal melanocytes. *Melanoma Res.* 25: 376-389.
- Caron, N., et al. 2018. Proliferation of hippocampal progenitors relies on p27-dependent regulation of Cdk6 kinase activity. *Cell. Mol. Life Sci.* 75: 3817-3827.
- Laudisi, F., et al. 2019. Induction of endoplasmic reticulum stress and inhibition of colon carcinogenesis by the anti-helminthic drug raxofanide. *Cancer Lett.* 462: 1-11.
- Chen, R., et al. 2020. Cx43 and AKAP95 regulate G₁/S conversion by competitively binding to cyclin E1/E2 in lung cancer cells. *Thorac. Cancer*. E-published.

RESEARCH USE

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