

Cdc25C (F-5): sc-55513

BACKGROUND

Cell cycle events are regulated by the sequential activation and deactivation of cyclin-dependent kinases (Cdks), including Cdk2 and Cdc2. Cdk2, in complexes with cyclin E and cyclin A appears necessary for the onset and progression of DNA replication, while the Cdc2 kinase, in complexes with cyclin A or cyclin B, is required for the initiation of cell division. Wee 1 has been identified as a protein kinase that suppresses the entry into mitosis by mediating inhibiting tyrosine phosphorylation of Cdc2 p34. In contrast, members of the Cdc25 family of protein phosphatases function as mitotic activators by dephosphorylation of Cdc2 p34 on regulatory tyrosine and possibly threonine residues. The Cdc25 gene family consists of at least three members that share approximately 40% identity in their most conserved carboxy-terminal sequences.

REFERENCES

1. Sadhu, K., et al. 1990. Human homolog of fission yeast Cdc25 mitotic inducer is predominantly expressed in G₂. Proc. Natl. Acad. Sci. USA 87: 5139-5143.
2. Gautler, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34Cdc2. Cell 67: 197-211.

CHROMOSOMAL LOCATION

Genetic locus: CDC25C (human) mapping to 5q31.2.

SOURCE

Cdc25C (F-5) is a mouse monoclonal antibody raised against amino acids 1-150 mapping at the N-terminus of Cdc25C 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.

APPLICATIONS

Cdc25C (F-5) is recommended for detection of Cdc25C of 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).

Suitable for use as control antibody for Cdc25C siRNA (h): sc-35038, Cdc25C shRNA Plasmid (h): sc-35038-SH and Cdc25C shRNA (h) Lentiviral Particles: sc-35038-V.

Molecular Weight of Cdc25C: 55 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, K-562 whole cell lysate: sc-2203 or HeLa nuclear extract: sc-2120.

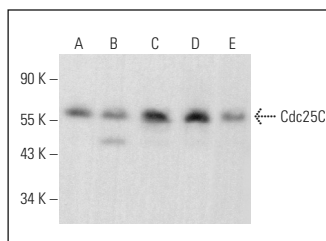
STORAGE

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

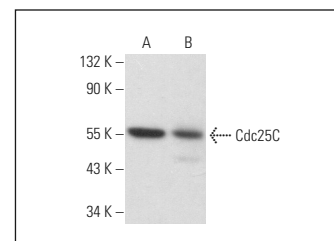
RESEARCH USE

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

DATA



Cdc25C (F-5): sc-55513. Western blot analysis of Cdc25C expression in Raji (A), Daudi (B), AN3 CA (C) and Caco-2 (D) whole cell lysates and HeLa nuclear extract (E).



Cdc25C (F-5): sc-55513. Western blot analysis of Cdc25C expression in K-562 (A) and A-431 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Shen, W., et al. 2010. Female infertility in PDE3A^{-/-} mice: polo-like kinase 1 (Plk1) may be a target of protein kinase A (PKA) and involved in meiotic arrest of oocytes from PDE3A^{-/-} mice. Cell Cycle 9: 4720-4734.
2. Lian, G., et al. 2012. Filamin A regulates neural progenitor proliferation and cortical size through Wee1-dependent Cdk1 phosphorylation. J. Neurosci. 32: 7672-7684.
3. Min, J., et al. 2012. Insulin-like growth factor I regulates G₂/M progression through mammalian target of rapamycin signaling in oligodendrocyte progenitors. Glia 60: 1684-1695.
4. Takwi, A.A., et al. 2014. miR-137 regulates the constitutive androstane receptor and modulates doxorubicin sensitivity in parental and doxorubicin-resistant neuroblastoma cells. Oncogene 33: 3717-3729.
5. Hu, J., et al. 2014. Filamin B regulates chondrocyte proliferation and differentiation through Cdk1 signaling. PLoS ONE 9: e89352.
6. Megiorni, F., et al. 2015. Crizotinib-induced antitumour activity in human alveolar rhabdomyosarcoma cells is not solely dependent on ALK and MET inhibition. J. Exp. Clin. Cancer Res. 34: 112.
7. Camero, S., et al. 2020. BET inhibition therapy counteracts cancer cell survival, clonogenic potential and radioresistance mechanisms in rhabdomyosarcoma cells. Cancer Lett. 479: 71-88.
8. Mateos-Nava, R.A., et al. 2021. Vanadium oxides modify the expression levels of the p21, p53, and Cdc25C proteins in human lymphocytes treated *in vitro*. Environ. Toxicol. E-published.

CONJUGATES

See **Cdc25C (H-6): sc-13138** for Cdc25C antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.