

Cdc25C (TC-14): sc-56269

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. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34^{Cdc2}. Cell 67: 197-211.
3. Galaktionov, K. and Beach, D. 1991. Specific activation of Cdc25 tyrosine phosphatases by B-type cyclins: evidence for multiple roles of mitotic cyclins. Cell 67: 1181-1194.
4. Igarashi, M., et al. 1991. Wee 1-like gene in human cells. Nature 353: 80-83.
5. Parker, L.L. and Piwnicka-Worms, H. 1992. Inactivation of the p34^{Cdc2}-cyclin B complex by the human Wee 1 tyrosine kinase. Science 257: 1955-1957.
6. Girard, F., et al. 1992. Cdc25 is a nuclear protein expressed constitutively throughout the cell cycle in nontransformed mammalian cells. J. Cell Biol. 118: 785-794.
7. Coleman, T.R., et al. 1993. Negative regulation of the Wee 1 protein kinase by direct action of the Nim1/CDR1 mitotic inducer. Cell 72: 919-929.

CHROMOSOMAL LOCATION

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

SOURCE

Cdc25C (TC-14) is a mouse monoclonal antibody raised against amino acids 1-258 of Cdc25C of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ 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.

APPLICATIONS

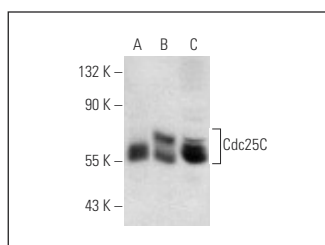
Cdc25C (TC-14) is recommended for detection of amino acids 1-150 of Cdc25C of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

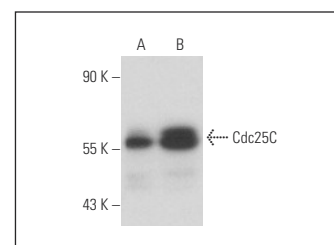
Molecular Weight of Cdc25C: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Cdc25C (h3): 293T Lysate: sc-177045.

DATA



Cdc25C (TC-14): sc-56269. Western blot analysis of Cdc25C expression in non-transfected 293T: sc-117752 (A), human Cdc25C transfected 293T: sc-177045 (B) and Raji (C) whole cell lysates.



Cdc25C (TC-14): sc-56269. Western blot analysis of Cdc25C expression in HeLa (A) and K-562 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Odaka, Y., et al. 2014. Dihydroartemisinin inhibits the mammalian target of rapamycin-mediated signaling pathways in tumor cells. Carcinogenesis 35: 192-200.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



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