

# Cdc25C (N-19): sc-6950

## 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 G<sub>2</sub>. Proc. Natl. Acad. Sci. USA 87: 5139-5143.
2. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34<sup>Cdc2</sup>. 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<sup>Cdc2</sup>-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.
8. Parker, L.L., et al. 1993. Phosphorylation and inactivation of the mitotic inhibitor Wee 1 by the Nim1/Cdr1 kinase. Nature 363: 736-738.

## CHROMOSOMAL LOCATION

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

## SOURCE

Cdc25C (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cdc25C of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6950 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Cdc25C (N-19) is recommended for detection of Cdc25C of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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: K-562 whole cell lysate: sc-2203, PC-3 cell lysate: sc-2220 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Guweidhi, A., et al. 2004. Enhanced expression of 14-3-3 $\alpha$  in pancreatic cancer and its role in cell cycle regulation and apoptosis. Carcinogenesis 25: 1575-1585.
2. Pan, H.A., et al. 2009. CDC25 protein expression and interaction with DAZL in human corpus luteum. Fertil. Steril. 92: 1997-2003.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Cdc25C (H-6): sc-13138** or **Cdc25C (F-5): sc-55513**, our highly recommended monoclonal alternatives to Cdc25C (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Cdc25C (H-6): sc-13138**.