

Cdc25C (SPM378) : sc-56358

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.
3. Galaktionov, K., et al. 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., et al. 1992. Inactivation of the p34Cdc2-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 (SPM378) is a mouse monoclonal antibody raised against recombinant 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 (SPM378) 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.

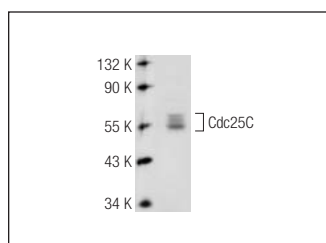
Molecular Weight of Cdc25C: 55 kDa.

Positive Controls: Cdc25C (h): 293T Lysate: sc-158365, PC-3 whole cell lysate: sc-2220 or K-562 whole cell lysate: sc-2203.

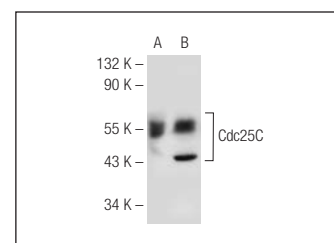
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Cdc25C (SPM378): sc-56358. Western blot analysis of Cdc25C expression in Raji whole cell lysate.



Cdc25C (SPM378): sc-56358. Western blot analysis of Cdc25C expression in non-transfected: sc-117752 (A) and human Cdc25C transfected: sc-158365 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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