

Cdc25B (N-19): sc-6949

BACKGROUND

The Cdc2/cyclin B enzyme, involved in regulation of mitosis in eukaryotic cells, is subject to multiple levels of control. Among these, the regulation of the catalytic subunit by Tyrosine phosphorylation is the best understood. Tyrosine phosphorylation inhibits the Cdc2/cyclin B complex, while Tyrosine dephosphorylation, which occurs at the onset of mitosis, directly activates the pre-MPH complex. The Cdc25 gene serves as a rate-limiting mitotic activator, apparently due to its action as the Cdc2 Tyrosine phosphatase. In the absence of Cdc25, Cdc2 accumulates in a Tyrosine phosphorylated state. In addition, Cdc25 proteins from a variety of species have been shown to share a low degree of sequence similarity with other Tyrosine phosphatases. The Cdc25 gene family consists of at least three members that share approximately 40% identity in their most conserved carboxy terminal sequences.

REFERENCES

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3. Doree, M. 1990. Control of M-phase by maturation promoting factor. *Curr. Opin. Cell Biol.* 2: 269-273.
4. Jessus, C., et al. 1990. Direct activation of cdc2 with phosphatase: identification of p13suc1-sensitive and insensitive steps. *FEBS Lett.* 266: 4-8.
5. Boutros, R., et al. 2007. CDC25B involvement in the centrosome duplication cycle and in microtubule nucleation. *Cancer Res.* 67: 11557-11564.
6. Varmeh-Ziaie, S., et al. 2007. The dual specificity phosphatase Cdc25B, but not the closely related Cdc25C, is capable of inhibiting cellular proliferation in a manner dependent upon its catalytic activity. *J. Biol. Chem.* 282: 24633-24641.
7. Kieffer, I., et al. 2007. Differential mitotic degradation of the CDC25B phosphatase variants. *Oncogene* 26: 7847-7858.
8. Boutros, R., et al. 2008. Asymmetric localization of the CDC25B phosphatase to the mother centrosome during interphase. *Cell Cycle* 7: 401-406.
9. Aressy, B., et al. 2008. Moderate variations in CDC25B protein levels modulate the response to DNA damaging agents. *Cell Cycle* 7: 2234-2240.

CHROMOSOMAL LOCATION

Genetic locus: CDC25B (human) mapping to 20p13.

SOURCE

Cdc25B (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cdc25B 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-6949 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cdc25B (N-19) is recommended for detection of Cdc25B 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).

Cdc25B (N-19) is also recommended for detection of Cdc25B in additional species, including porcine.

Suitable for use as control antibody for Cdc25B siRNA (h): sc-37552, Cdc25B shRNA Plasmid (h): sc-37552-SH and Cdc25B shRNA (h) Lentiviral Particles: sc-37552-V.

Molecular Weight of Cdc25B: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEL 92.1.7 cell lysate: sc-2270 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 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.

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 or our catalog for detailed protocols and support products.



Try **Cdc25B (DCS-162): sc-56266** or **Cdc25B (DCS-164): sc-65504**, our highly recommended monoclonal alternatives to Cdc25B (N-19).