

# Cdc25B (E-19): sc-6948

## 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

- Murray, A.W., et al. 1989. Dominoes and clocks: the union of two views of the cell cycle. *Science* 246: 614-621.
- Gould, K., et al. 1989. Tyrosine phosphorylation of the fission cdc2 protein kinase regulates entry into mitosis. *Nature* 342: 39-45.
- Doree, M. 1990. Control of M-phase by maturation promoting factor. *Curr. Opin. Cell. Biol.* 2: 269-273.
- Jessus, C., et al. 1990. Direct activation of cdc2 with phosphatase: identification of p13suc1-sensitive and insensitive steps. *FEBS Letts.* 266: 4-8.
- Moreno, S., et al. 1990. Regulation of mitosis by cyclic accumulation of p80Cdc25 mitotic inducer in fission yeast. *Nature* 344: 549-552.
- Alfa, C.E., et al. 1990. Distinct nuclear and spindle pole body populations of cyclin-Cdc2 in fission yeast. *Nature* 347: 680-682.
- Moreno, S., et al. 1991. Clues to action of Cdc25 protein. *Nature* 351: 194.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: CDC25B (human) mapping to 20p13; Cdc25b (mouse) mapping to 2 F1.

## SOURCE

Cdc25B (E-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-6948 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

Cdc25B (E-19) is recommended for detection of Cdc25B of mouse, rat and 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 Cdc25B siRNA (h): sc-37552, Cdc25B siRNA (m): sc-37553, Cdc25B shRNA Plasmid (h): sc-37552-SH, Cdc25B shRNA Plasmid (m): sc-37553-SH, Cdc25B shRNA (h) Lentiviral Particles: sc-37552-V and Cdc25B shRNA (m) Lentiviral Particles: sc-37553-V.

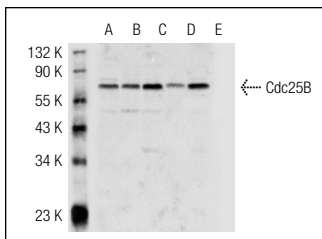
Molecular Weight of Cdc25B: 60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, THP-1 cell lysate: sc-2238 or K-562 whole cell lysate: sc-2203.

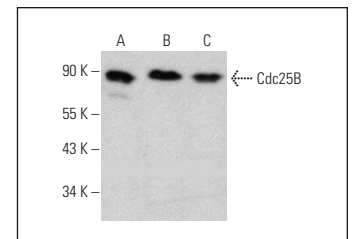
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Cdc25B (E-19): sc-6948. Western blot analysis of Cdc25B expression in HEL 92.1.7 (A), HL-60 (B), K-562 (C), THP-1 (D) and U-937 (E) whole cell lysates.



Cdc25B (E-19): sc-6948. Western blot analysis of Cdc25B expression in NIH/3T3 (A), RAW 264.7 (B) and EOC 20 (C) whole cell lysates.

## STORAGE

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



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