

Cdc25A (h4): 293 Lysate: sc-158364

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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2. Gould, K. and Nurse, P. 1989. Tyrosine phosphorylation of the fission Cdc2 protein kinase regulates entry into mitosis. *Nature* 342: 39-45.
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. Moreno, S., et al. 1990. Regulation of mitosis by cyclic accumulation of p80Cdc25 mitotic inducer in fission yeast. *Nature* 344: 549-552.
6. Alfa, C.E., et al. 1990. Distinct nuclear and spindle pole body populations of cyclin-Cdc2 in fission yeast. *Nature* 347: 680-682.
7. Moreno, S., et al. 1991. Clues to action of Cdc25 protein. *Nature* 351: 194.
8. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34cdc2. *Cell* 67: 197-211.
9. 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: CDC25A (human) mapping to 3p21.31.

PRODUCT

Cdc25A (h4): 293 Lysate represents a lysate of human Cdc25A transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Cdc25A (h4): 293 Lysate is suitable as a Western Blotting positive control for human reactive Cdc25A antibodies. Recommended use: 10-20 µl per lane.

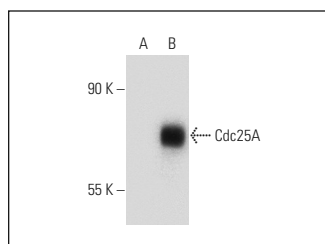
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

Cdc25A (DCS-124): sc-65505 is recommended as a positive control antibody for Western Blot analysis of enhanced human Cdc25A expression in Cdc25A transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

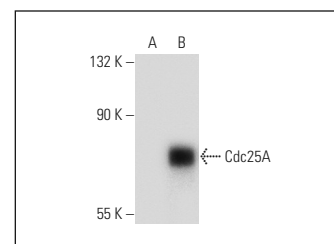
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Cdc25A (DCS-124): sc-65505. Western blot analysis of Cdc25A expression in non-transfected: sc-110760 (A) and human Cdc25A transfected: sc-158364 (B) 293 whole cell lysates.



Cdc25A (5H51): sc-70824. Western blot analysis of Cdc25A expression in non-transfected: sc-110760 (A) and human Cdc25A transfected: sc-158364 (B) 293 whole cell lysates.

RESEARCH USE

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