

p-Cdc25A (Ser 79): sc-130590

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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- Moreno, S., et al. 1990. Regulation of mitosis by cyclic accumulation of p80Cdc25 mitotic inducer in fission yeast. *Nature* 344: 549-552.
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- Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates Cdc2 p34. *Cell* 67: 197-211.
- 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.

SOURCE

p-Cdc25A (Ser 79) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 79 phosphorylated Cdc25A of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml 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

p-Cdc25A (Ser 79) is recommended for detection of Ser 79 phosphorylated Cdc25A 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cdc25A siRNA (h): sc-29254, Cdc25A shRNA Plasmid (h): sc-29254-SH and Cdc25A shRNA (h) Lentiviral Particles: sc-29254-V.

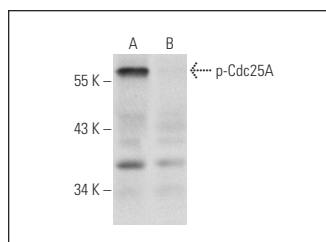
Molecular Weight of p-Cdc25A: 67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or UV-treated A2780 whole cell lysate.

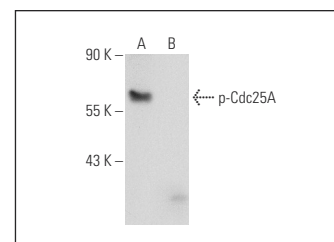
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-Cdc25A (Ser 79): sc-130590. Western blot analysis of Cdc25A phosphorylation in untreated (A) and lambda protein phosphatase (sc-200312A) treated (B) HeLa whole cell lysates.



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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.