

# p-Cdc25B (Ser 187): sc-130184

## 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. Human Cdc25B may be phosphorylated on Ser 187, an event that inactivates Cdc25B activity.

## REFERENCES

1. Murray, A.W., et al. 1989. Dominoes and clocks: the union of two views of the cell cycle. *Science* 246: 614-621.
2. Gould, K. and Nurse, P. 1989. Tyrosine phosphorylation of the fission Cdc2 protein kinase regulates entry into mitosis. *Nature* 342: 39-45.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-Cdc25B (Ser 187) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 187 phosphorylated Cdc25B of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

p-Cdc25B (Ser 187) is recommended for detection of Ser 187 phosphorylated Cdc25B 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-37552-SH and Cdc25B shRNA (h) Lentiviral Particles: sc-37552-V.

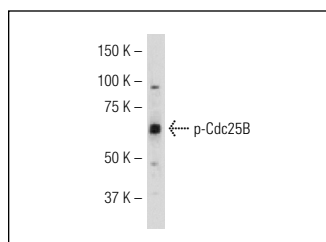
Molecular Weight of p-Cdc25B: 60 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218 or human cancer tissue.

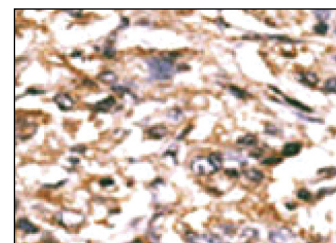
## RECOMMENDED SECONDARY REAGENTS

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



p-Cdc25B (Ser 187): sc-130184. Western blot analysis of p-Cdc25B expression in SK-BR-3 cell lysate.



p-Cdc25B (Ser 187): sc-130184. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

1. Valdez, B.C., et al. 2010. The synergistic cytotoxicity of clofarabine, fludarabine and busulfan in AML cells involves ATM pathway activation and chromatin remodeling. *Biochem. Pharmacol.* E-Published.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://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 p-Cdc25B (Ser 187).