

# Cdc25A (M-191): sc-7157

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: CDC25A (human) mapping to 3p21.31; Cdc25a (mouse) mapping to 9 F2.

## SOURCE

Cdc25A (M-191) is a rabbit polyclonal antibody raised against amino acids 323-514 mapping at the C-terminus of Cdc25A of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Cdc25A (M-191) is recommended for detection of Cdc25A 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).

Cdc25A (M-191) is also recommended for detection of Cdc25A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cdc25A siRNA (h): sc-29254, Cdc25A siRNA (m): sc-35037, Cdc25A shRNA Plasmid (h): sc-29254-SH, Cdc25A shRNA Plasmid (m): sc-35037-SH, Cdc25A shRNA (h) Lentiviral Particles: sc-29254-V and Cdc25A shRNA (m) Lentiviral Particles: sc-35037-V.

Molecular Weight of Cdc25A: 67 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, WEHI-231 whole cell lysate: sc-2213 or Cdc25A (m): 293T Lysate: sc-119125.

## RESEARCH USE

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

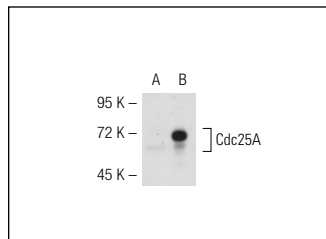
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

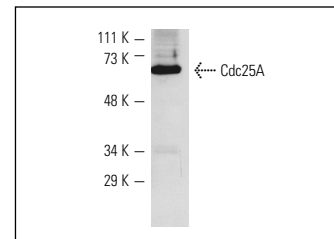
## STORAGE

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

## DATA



Cdc25A (M-191): sc-7157. Western blot analysis of Cdc25A expression in non-transfected: sc-117752 (A) and mouse Cdc25A transfected: sc-119125 (B) 293T whole cell lysates.



Cdc25A (M-191): sc-7157. Western blot analysis of Cdc25A expression in WEHI-231 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Mailand, N., et al. 2000. Rapid destruction of human Cdc25A in response to DNA damage. *Science* 288: 1425-1429.
2. Leisenfelder, S.A., et al. 2006. Varicella-zoster virus infection of human foreskin fibroblast cells results in atypical cyclin expression and cyclin-dependent kinase activity. *J. Virol.* 80: 5577-5587.
3. Timofeev, O., et al. 2009. Human Cdc25A phosphatase has a non-redundant function in G<sub>2</sub> phase by activating Cyclin A-dependent kinases. *FEBS Lett.* 583: 841-847.
4. Vázquez-Novelle, M.D., et al. 2010. Human Cdc14A phosphatase modulates the G<sub>2</sub>/M transition through Cdc25A and Cdc25B. *J. Biol. Chem.* 285: 40544-40553.
5. Khan, M., et al. 2010. Berberine and a *Berberis lycium* extract inactivate Cdc25A and induce  $\alpha$ -tubulin acetylation that correlate with HL-60 cell cycle inhibition and apoptosis. *Mutat. Res.* 683: 123-130.
6. Karimi-Busheri, F., et al. 2010. Senescence evasion by MCF-7 human breast tumor-initiating cells. *Breast Cancer Res.* 12: R31.
7. Ozmen, A., et al. 2010. *In vitro* anti-leukemic activity of the ethnopharmacological plant *Scutellaria orientalis* ssp. *carica* endemic to western Turkey. *Phytomedicine* 17: 55-62.
8. Brunetto, E., et al. 2013. CDC25A protein stability represents a previously unrecognized target of HER2 signaling in human breast cancer: implication for a potential clinical relevance in trastuzumab treatment. *Neoplasia* 15: 579-590.

**MONOS**  
Satisfaction  
Guaranteed

Try **Cdc25A (F-6): sc-7389** or **Cdc25A (DCS-120): sc-56264**, our highly recommended monoclonal alternatives to Cdc25A (M-191). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Cdc25A (F-6): sc-7389**.