

Cdc14b Phosphatase (G-8): sc-374572

BACKGROUND

Cdc14b Phosphatase, also known as CDC14 cell division cycle 14 homolog B, is a 498 amino acid protein belonging to the protein-tyrosine phosphatase family. Cdc14b Phosphatase is composed of two structurally identical A and B domains that form a dual specificity protein phosphatase fold, which preferentially dephosphorylates proteins modified by proline-directed kinases. Cdc14b Phosphatase is highly similar to *Saccharomyces cerevisiae* Cdc14, a protein involved in cell cycle control. Localized to the nucleus, Cdc14b Phosphatase is expressed as four isoforms produced by alternative splicing.

REFERENCES

- Vázquez-Novelle, M.D., et al. 2005. Functional homology among human and fission yeast Cdc14 phosphatases. *J. Biol. Chem.* 280: 29144-29150.
- Cho, H.P., et al. 2005. The dual-specificity phosphatase CDC14B bundles and stabilizes microtubules. *Mol. Cell. Biol.* 25: 4541-4551.
- Bose, S., et al. 2006. The elusive multiple self-healing squamous epithelioma (MSSE) gene: further mapping, analysis of candidates, and loss of heterozygosity. *Oncogene* 25: 806-812.
- Krasinska, L., et al. 2007. Regulation of multiple cell cycle events by Cdc14 homologues in vertebrates. *Exp. Cell Res.* 313: 1225-1239.
- Bassermann, F., et al. 2008. The Cdc14B-Cdh1-Plk1 axis controls the G₂ DNA-damage-response checkpoint. *Cell* 134: 256-267.
- Berdougo, E., et al. 2008. The nucleolar phosphatase Cdc14B is dispensable for chromosome segregation and mitotic exit in human cells. *Cell Cycle* 7: 1184-1190.
- Wu, J., et al. 2008. Cdc14B depletion leads to centriole amplification, and its overexpression prevents unscheduled centriole duplication. *J. Cell Biol.* 181: 475-483.
- Rosso, L., et al. 2008. Birth and rapid subcellular adaptation of a hominoid-specific CDC14 protein. *PLoS Biol.* 6: e140.

CHROMOSOMAL LOCATION

Genetic locus: CDC14B (human) mapping to 9q22.32; Cdc14b (mouse) mapping to 13 B3.

SOURCE

Cdc14b Phosphatase (G-8) is a mouse monoclonal antibody raised against amino acids 208-271 mapping within an internal region of Cdc14b Phosphatase of human origin.

PRODUCT

Each vial contains 200 µg IgA kappa light chain in 1.0 ml of 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

Cdc14b Phosphatase (G-8) is recommended for detection of Cdc14b Phosphatase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Cdc14b Phosphatase siRNA (h): sc-72833, Cdc14b Phosphatase siRNA (m): sc-72834, Cdc14b Phosphatase shRNA Plasmid (h): sc-72833-SH, Cdc14b Phosphatase shRNA Plasmid (m): sc-72834-SH, Cdc14b Phosphatase shRNA (h) Lentiviral Particles: sc-72833-V and Cdc14b Phosphatase shRNA (m) Lentiviral Particles: sc-72834-V.

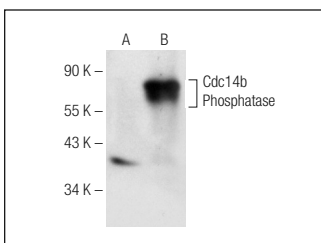
Molecular Weight of Cdc14b Phosphatase: 62 kDa.

Positive Controls: Cdc14b Phosphatase (h): 293T Lysate: sc-174435.

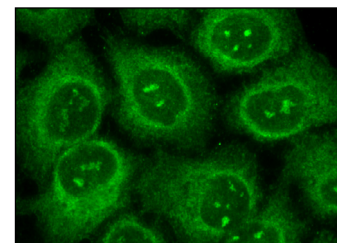
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Cdc14b Phosphatase (G-8): sc-374572. Western blot analysis of Cdc14b Phosphatase expression in non-transfected: sc-117752 (A) and human Cdc14b Phosphatase transfected: sc-174435 (B) 293T whole cell lysates.



Cdc14b Phosphatase (G-8): sc-374572. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Ma, L., et al. 2015. Global characteristics of CSIG-associated gene expression changes in human HEK293 cells and the implications for CSIG regulating cell proliferation and senescence. *Front. Endocrinol.* 6: 69.
- Wang, Y., et al. 2020. P53 suppresses SENP3 phosphorylation to mediate G₂ checkpoint. *Cell Discov.* 6: 21.

RESEARCH USE

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