

# Cdc14a phosphatase (N-18): sc-25952

## BACKGROUND

In budding yeast, the Cdc14a phosphatase activates mitotic exit by dephosphorylation of specific cyclin-dependent kinase (Cdk) substrates and seems to be regulated by sequestration in the nucleolus until its release during mitosis. Human Cdc14a phosphatase is highly similar to *Saccharomyces cerevisiae* Cdc14 and is a member of the dual specificity protein Tyrosine phosphatase family. It interacts with and dephosphorylates tumor suppressor protein p53 and may regulate the function of p53. In addition, Cdc14a dephosphorylates hCdh1 and activates APCdh1. Cdc14a phosphatase plays a role in the regulation of the centrosome cycle, mitosis and cytokinesis, thereby influencing chromosome partitioning and genomic stability in human cells. Deregulated human Cdc14a phosphatase disrupts centrosome separation and chromosome segregation.

## REFERENCES

1. Li, L., et al. 1997. A family of putative tumor suppressors is structurally and functionally conserved in humans and yeast. *J. Biol. Chem.* 272: 29403-29406.
2. Wong, A.K., et al. 1999. Genomic structure, chromosomal location, and mutation analysis of the human CDC14A gene. *Genomics* 59: 248-251.
3. Li, L., et al. 2000. The human Cdc14 phosphatases interact with and dephosphorylate the tumor suppressor protein p53. *J. Biol. Chem.* 275: 2410-2414.
4. Bembek, J., et al. 2001. Regulation of the anaphase-promoting complex by the dual specificity phosphatase human Cdc14a. *J. Biol. Chem.* 276: 48237-48242.
5. Kaiser, B.K., et al. 2002. Disruption of centrosome structure, chromosome segregation, and cytokinesis by misexpression of human Cdc14a phosphatase. *Mol. Biol. Cell* 13: 2289-2300.
6. Mailand, N., et al. 2002. Deregulated human Cdc14a phosphatase disrupts centrosome separation and chromosome segregation. *Nat. Cell Biol.* 4: 317-322.

## CHROMOSOMAL LOCATION

Genetic locus: CDC14A (human) mapping to 1p21.2.

## SOURCE

Cdc14a phosphatase (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Cdc14a phosphatase of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-25952 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Cdc14a phosphatase (N-18) is recommended for detection of Cdc14a phosphatase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Cdc14a phosphatase (N-18) is also recommended for detection of Cdc14a phosphatase in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for Cdc14a phosphatase siRNA (h): sc-37551, Cdc14a phosphatase shRNA Plasmid (h): sc-37551-SH and Cdc14a phosphatase shRNA (h) Lentiviral Particles: sc-37551-V.

Molecular Weight of Cdc14a phosphatase: 69 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Lanzetti, L., et al. 2007. Regulation of the Rab 5 GTPase-activating protein RN-tre by the dual specificity phosphatase Cdc14a in human cells. *J. Biol. Chem.* 282: 15258-15270.

## 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.

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Try **Cdc14a phosphatase (DCS-291): sc-56260**, our highly recommended monoclonal alternative to Cdc14a phosphatase (N-18).