

CTDSP1 (D-14): sc-107346

BACKGROUND

The repetitive C-terminal domain (CTD) of the largest RNA polymerase II (RNAP) subunit plays a critical role in the regulation of gene expression. Each cycle of transcription is suggested to be associated with the reversible phosphorylation of the repetitive CTD of the largest RNAP II subunit. Therefore, the dephosphorylation of RNAP II by CTD phosphatase is critical in the transcription cycle. CTDSP1 (carboxy-terminal domain RNA polymerase II polypeptide A small phosphatase 1), also known as SCP1 or NLIIF (nuclear LIM interactor-interacting factor 3), is a 261 amino acid nuclear protein that is ubiquitously expressed, with highest expression in spleen, lung and placenta. CTDSP1 contains a FCP1 homology domain and interacts with CLIM-2 (carboxy-terminal LIM domain protein 2).

REFERENCES

1. Chambers, R.S., et al. 1995. The activity of COOH-terminal phosphatase is regulated by a docking site on RNA polymerase II and by the general transcription factors IIF and IIB. *J. Biol. Chem.* 270: 14962-14969.
2. Majello, B. and Napolitano, G. 2001. Control of RNA polymerase II activity by dedicated CTD kinases and phosphatases. *Front. Biosci.* 6: D1358-D1368.
3. Kobor, M.S. and Greenblatt, J. 2002. Regulation of transcription elongation by phosphorylation. *Biochim. Biophys. Acta* 1577: 261-275.
4. Lin, P.S., et al. 2002. CTD phosphatase: role in RNA polymerase II cycling and the regulation of transcript elongation. *Prog. Nucleic Acid Res. Mol. Biol.* 72: 333-365.
5. Palancade, B., et al. 2004. Dephosphorylation of RNA polymerase II by CTD-phosphatase FCP1 is inhibited by phospho-CTD associating proteins. *J. Mol. Biol.* 335: 415-424.
6. Kamenski, T., et al. 2004. Structure and mechanism of RNA polymerase II CTD phosphatases. *Mol. Cell* 15: 399-407.
7. Yeo, M., et al. 2005. Small CTD phosphatases function in silencing neuronal gene expression. *Science* 307: 596-600.

CHROMOSOMAL LOCATION

Genetic locus: CTDSP1 (human) mapping to 2q35; Ctdsp1 (mouse) mapping to 1 C3.

SOURCE

CTDSP1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CTDSP1 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-107346 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

CTDSP1 (D-14) is recommended for detection of CTDSP1 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); non cross-reactive with family members CTDSP1 or CTDSP2.

CTDSP1 (D-14) is also recommended for detection of CTDSP1 in additional species, including canine and bovine.

Suitable for use as control antibody for CTDSP1 siRNA (h): sc-94748, CTDSP1 siRNA (m): sc-142614, CTDSP1 shRNA Plasmid (h): sc-94748-SH, CTDSP1 shRNA Plasmid (m): sc-142614-SH, CTDSP1 shRNA (h) Lentiviral Particles: sc-94748-V and CTDSP1 shRNA (m) Lentiviral Particles: sc-142614-V.

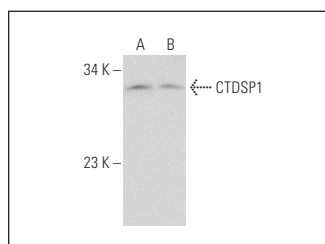
Molecular Weight of CTDSP1: 29 kDa.

Positive Controls: A-673 cell lysate: sc-2414 or JAR cell lysate: sc-2276.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CTDSP1 (D-14): sc-107346. Western blot analysis of CTDSP1 expression in A-673 (A) and JAR (B) whole cell lysates.

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 or our catalog for detailed protocols and support products.