

DcpS (H4-32): sc-130451

BACKGROUND

Eukaryotic cells primarily utilize exoribonucleases and decapping enzymes to degrade their mRNA. DcpS is a scavenger pyrophosphatase that hydrolyzes the residual cap structure following 3' to 5' decay of an mRNA. Following mRNA degradation DcpS releases N-7 methyl guanosine monophosphate and 5'-diphosphate terminated cap or mRNA products. The central histidine within the DcpS HIT motif is critical for decapping activity and defines the HIT motif as a new mRNA decapping domain, making DcpS the first member of the HIT family of proteins with a defined biological function. HIT proteins are homodimeric and contain two conserved 100-amino-acid HIT fold domains with independent active sites that are each sufficient to bind and hydrolyze cognate substrates.

REFERENCES

1. Fireman, P. 1992. Diagnosis of sinusitis in children: emphasis on the history and physical examination. *J. Allergy Clin. Immunol.* 90: 433-436.
2. Wang, Z. and Kiledjian, M. 2001. Functional link between the mammalian exosome and mRNA decapping. *Cell* 107: 751-762.
3. Liu, H., Rodgers, N.D., Jiao, X. and Kiledjian, M. 2002. The scavenger mRNA decapping enzyme DcpS is a member of the HIT family of pyrophosphatases. *EMBO J.* 21: 4699-4708.
4. Wang, Z., Jiao, X., Carr-Schmid, A. and Kiledjian, M. 2002. The hDcp2 protein is a mammalian mRNA decapping enzyme. *Proc. Natl. Acad. Sci. USA* 99: 12663-12668.
5. Gu, M., Fabrega, C., Liu, S.W., Liu, H., Kiledjian, M. and Lima, C.D. 2004. Insights into the structure, mechanism, and regulation of scavenger mRNA decapping activity. *Mol. Cell* 14: 67-80.

CHROMOSOMAL LOCATION

Genetic locus: DCPS (human) mapping to 11q24.2; Dcps (mouse) mapping to 9 A4.

SOURCE

DcpS (H4-32) is a mouse monoclonal antibody raised against recombinant DcpS of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

DcpS (H4-32) is recommended for detection of DcpS 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for DcpS siRNA (h): sc-44389, DcpS siRNA (m): sc-44390, DcpS shRNA Plasmid (h): sc-44389-SH, DcpS shRNA Plasmid (m): sc-44390-SH, DcpS shRNA (h) Lentiviral Particles: sc-44389-V and DcpS shRNA (m) Lentiviral Particles: sc-44390-V.

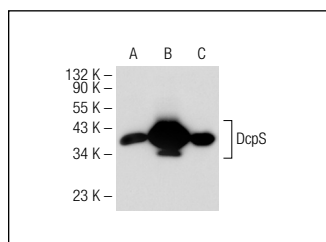
Molecular Weight of DcpS: 40 kDa.

Positive Controls: DcpS (m): 293T Lysate: sc-119688, HeLa whole cell lysate: sc-2200 or human kidney tissue.

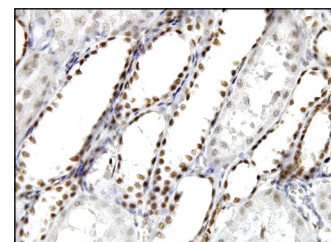
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



DcpS (H4-32): sc-130451. Western blot analysis of DcpS expression in non-transfected: sc-117752 (A) and mouse DcpS transfected: sc-119688 (B) 293T whole cell lysates and HeLa nuclear extract (C).



DcpS (H4-32): sc-130451. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic localization.

RESEARCH USE

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