

hDcp2 (S-19): sc-26085

BACKGROUND

The major pathway of eukaryotic mRNA decay involves deadenylation-dependent decapping followed by 5' to 3' exonucleolytic degradation. Human decapping enzyme 2 (hDcp2) is an mRNA decapping enzyme which contains intrinsic decapping activity. In nonsense-mediated decay, the human decapping complex, made up of hDcp1 and hDcp2, may be recruited to mRNAs containing premature termination codons by nonsense-mediated decay factor (Upf) proteins. The decapping activator complex (Lsm1p-7p) is also involved in the recruitment of the decapping complex, indicated by data showing that Lsm1p-7p enhances the co-immunoprecipitation of the complex with mRNA. Dcp2 specifically hydrolyzes methylated capped RNA to release m⁷GDP, thereby aiding in mRNA degradation. Both Dcp1 and Dcp2 co-localize in the cytoplasm, which is consistent with their role in mRNA decay.

REFERENCES

1. Tharun, S., et al. 2001. Targeting an mRNA for decapping: displacement of translation factors and association of the Lsm1p-7p complex on deadenylated yeast mRNAs. *Mol. Cell* 8: 1075-1083.
2. Wang, Z., et al. 2002. The hDcp2 protein is a mammalian mRNA decapping enzyme. *Proc. Natl. Acad. Sci. USA* 99: 12663-12668.
3. Lykke-Andersen, J. 2002. Identification of a human decapping complex associated with hUpf proteins in nonsense-mediated decay. *Mol. Cell Biol.* 22: 8114-8121.
4. Van Dijk, E., et al. 2002. Human Dcp2: a catalytically active mRNA decapping enzyme located in specific cytoplasmic structures. *EMBO J.* 21: 6915-6924.
5. Entrez-Protein. (NP_689837). World Wide Web URL: <http://www.ncbi.nlm.nih.gov/entrez/query>

CHROMOSOMAL LOCATION

Genetic locus: DCP2 (human) mapping to 5q22.2.

SOURCE

hDcp2 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of hDcp2 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-26085 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

hDcp2 (S-19) is recommended for detection of hDcp2 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).

hDcp2 (S-19) is also recommended for detection of hDcp2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for hDcp2 siRNA (h): sc-44388, hDcp2 shRNA Plasmid (h): sc-44388-SH and hDcp2 shRNA (h) Lentiviral Particles: sc-44388-V.

Molecular Weight of hDcp2: 45 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.

PROTOCOLS

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