SANTA CRUZ BIOTECHNOLOGY, INC.

hDcp2 (V-25): sc-133650

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The Power to Question

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 m^7GDP, 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. and Parker, R. 2001. Targeting an mRNA for decapping: displacement of translation factors and association of the Lsm1p-7p complex on deadenyl-ated yeast mRNAs. Mol. Cell 8: 1075-1083.
2. 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.
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., Cougot, N., Meyer, S., Babajko, S., Wahle, E. and Seraphin, B. 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 (V-25) is an affinity purified rabbit polyclonal antibody raised against synthetic hDcp2 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

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

hDcp2 (V-25) is recommended for detection of hDcp2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

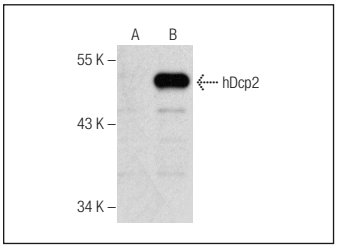
Molecular Weight of hDcp2: 45 kDa.

Positive Controls: hDcp2 (h): 293T Lysate: sc-371258 or Jurkat whole cell lysate: sc-2204.

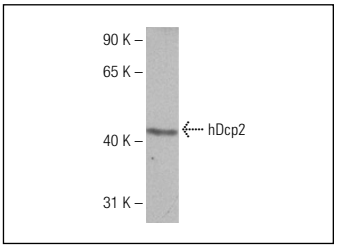
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



hDcp2 (V-25): sc-133650. Western blot analysis of hDcp2 expression in non-transfected: sc-117752 (**A**) and human hDcp2 transfected: sc-371258 (**B**) 293T whole cell lysates.



hDcp2 (V-25): sc-133650. Western blot analysis of hDcp2 expression in Jurkat whole cell lysate.

RESEARCH USE

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