SANTA CRUZ BIOTECHNOLOGY, INC.

Dcp1 (yN-19): sc-15558

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Analysis of mRNA decay in *Saccharomyces cerevisiae* has shown that removal of the 5′ cap structure is a key step in the turnover of many yeast mRNAs, and that this decapping is carried out by Dcp1. Dcp1 is required for the normal decay of many unstable and stable yeast mRNAs, as well as mRNAs that are decapped independently of deadenylation. Dcp1 recognizes the mRNA substrate by interactions with both the cap and the RNA moiety. The Dcp1 is also a phosphoprotein, suggesting its activity may be regulated by post-transcriptional modification. The eukaryotic initiation factor complex eIF4F, which in yeast contains the core components eIF4E and eIF4G, uses the cap as a binding site, serving as an initial point of assembly for the translation apparatus. Dcp1 then interacts physically and functionally with the eIF4F translation initiation complex.

REFERENCES

1. LaGrandeur, T.E. and Parker, R. 1996. mRNA decapping activities and their biological roles. Biochimie 78: 1049-1055.
2. Beelman, C.A., Stevens, A., Caponigro, G., LaGrandeur, T.E., Hatfield, L., Fortner, D.M., and Parker, R. 1996. An essential component of the decapping enzyme required for normal rates of mRNA turnover. Nature 382: 642-646.
3. LaGrandeur, T.E. and Parker, R. 1998. Isolation and characterization of Dcp1p, the yeast mRNA decapping enzyme. EMBO J. 17: 1487-1496.
4. Zhang, S., Williams, C.J., Hagan, K., and Peltz, S.W. 1999. Mutations in VPS16 and MRT1 stabilize mRNAs by activating an inhibitor of the decapping enzyme. Mol. Cell. Biol. 19: 7568-7576.
5. Vilela, C., Velasco, C., Ptushkina, M., and McCarthy, J.E. 2000. The eukaryotic mRNA decapping protein Dcp1 interacts physically and functionally with the eIF4F translation initiation complex. EMBO J. 19: 4372-4382.

SOURCE

Dcp1 (yN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Dcp1 of *Saccharomyces cerevisiae* 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-15558 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.

PROTOCOLS

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

APPLICATIONS

Dcp1 (yN-19) is recommended for detection of Dcp1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

SELECT PRODUCT CITATIONS

1. Fujita, K., et al. 2008. Immunohistochemical identification of messenger RNA-related proteins in basophilic inclusions of adult-onset atypical motor neuron disease. Acta Neuropathol. 116: 439-445.

RESEARCH USE

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