Dcp1a (56-Y): sc-100706

**BACKGROUND**

Cleavage of the 5'-cap structure is involved in the major 5'-to-3' and nonsense-mediated mRNA decay pathways. The protein complex consisting of Dcp1 and Dcp2 has been identified as the responsible species for the decapping reaction in Saccharomyces cerevisiae. In nonsense-mediated decay, the human decapping complex, made up of S. cerevisiae homologs Dcp1a and hDcp2, may be recruited to mRNAs containing premature termination codons by nonsense-mediated decay factor (Upf) proteins. hDcp2 specifically hydrolyzes methylated capped RNA to release m^7^GDP, thereby aiding in mRNA degradation. Both Dcp1a and hDcp2 colocalize in the cytoplasm. In addition, Dcp1a interacts with Smad4 forming a complex with TGFβ and BMP-4. Dcp1a and Smad4 interact directly through a EVH1/WH1 domain on Dcp1a and a proline-rich activation domain on Smad4. Smad4 is essential to nuclear translocation of Dcp1a as deletion of the Smad4-interacting domain (located in the N-terminal 100 amino acids) of Dcp1a eliminates TGFβ-induced nuclear translocation of Dcp1a.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: DCP1A (human) mapping to 3p21.1; Dcp1a (mouse) mapping to 14 B.

**SOURCE**

Dcp1a (56-Y) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 186-285 of Dcp1a of human origin.

**PRODUCT**

Each vial contains 100 µg IgG kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

Dcp1a (56-Y) is recommended for detection of Dcp1a 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).

Suitable for use as control antibody for Dcp1a siRNA (h): sc-45779, Dcp1a siRNA (m): sc-45780, Dcp1a shRNA Plasmid (h): sc-45779-SH, Dcp1a shRNA Plasmid (m): sc-45780-SH, Dcp1a shRNA (h) Lentiviral Particles: sc-45779-V and Dcp1a shRNA (m) Lentiviral Particles: sc-45780-V.

Molecular Weight of Dcp1a: 63 kDa.

Positive Controls: Dcp1a (h2): 293T Lysate: sc-171800, Jurkat whole cell lysate: sc-2204 or IMR-32 cell lysate: sc-2409.

**STORAGE**

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

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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