

Edc3 (F-9): sc-271806

BACKGROUND

The major eukaryotic mRNA decay pathway occurs through deadenylation, decapping, and 5' to 3' degradation of the mRNA. Decapping is a critical control point in this decay pathway. During the process of mRNA degradation, Edc3 has been found to play a role in mRNA decapping. As part of the mRNA degradation process, Edc3 becomes part of a complex that also contains hDcp1a, hDcp2a, RCK and Edc4/HEDLS. Within this complex, Edc3 directly interacts with Dcp1a and DDX6. Edc3, enhancer of mRNA-decapping protein 3, is a 508 amino acid protein that maps to human gene EDC3. Edc3 is a member of the Edc3 family and contains one YjeF N-terminal domain. Edc3 is localized to the cytoplasm and is found primarily in the cells' processing bodies (PB). Evidence indicates Edc3 also interacts with TTP, zinc finger protein 36, a candidate gene for obesity-related metabolic complications.

REFERENCES

1. Dunckley, T., et al. 2001. Two related proteins, Edc1p and Edc2p, stimulate mRNA decapping in *Saccharomyces cerevisiae*. *Genetics* 157: 27-37.
2. Schwartz, D., et al. 2003. The enhancer of decapping proteins, Edc1p and Edc2p, bind RNA and stimulate the activity of the decapping enzyme. *RNA* 9: 239-251.
3. Kshirsagar, M. and Parker, R. 2004. Identification of Edc as an enhancer of mRNA decapping in *Saccharomyces cerevisiae*. *Genetics* 166: 729-739.
4. Fenger-Grøn, M., et al. 2005. Multiple processing body factors and the ARE binding protein TTP activate mRNA decapping. *Mol. Cell* 20: 905-915.
5. Beausoleil, S.A., et al. 2006. A probability-based approach for high-throughput protein phosphorylation analysis and site localization. *Nat. Biotechnol.* 24: 1285-1292.
6. Rudolph, C., et al. 2007. ApoA-I-binding protein (AI-BP) and its homologues hYjeF_N2 and hYjeF_N3 comprise the YjeF_N domain protein family in humans with a role in spermiogenesis and oogenesis. *Horm. Metab. Res.* 39: 322-335.
7. Dong, S., et al. 2007. Yra1 autoregulation requires nuclear export and cytoplasmic Edc3p-mediated degradation of its pre-mRNA. *Mol. Cell* 25: 559-573.

CHROMOSOMAL LOCATION

Genetic locus: EDC3 (human) mapping to 15q24.1; Edc3 (mouse) mapping to 9 B.

SOURCE

Edc3 (F-9) is a mouse monoclonal antibody raised against amino acids 209-508 mapping at the C-terminus of Edc3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Edc3 (F-9) is recommended for detection of Edc3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Edc3 siRNA (h): sc-62134, Edc3 siRNA (m): sc-62135, Edc3 shRNA Plasmid (h): sc-62134-SH, Edc3 shRNA Plasmid (m): sc-62135-SH, Edc3 shRNA (h) Lentiviral Particles: sc-62134-V and Edc3 shRNA (m) Lentiviral Particles: sc-62135-V.

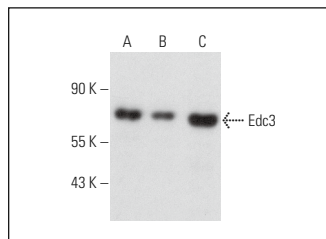
Molecular Weight of Edc3: 56 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, PC-3 cell lysate: sc-2220 or Jurkat whole cell lysate: sc-2204.

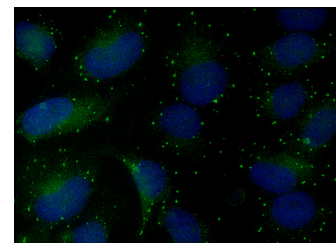
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Edc3 (F-9): sc-271806. Western blot analysis of Edc3 expression in HeLa nuclear extract (A) and PC-3 (B) and Jurkat (C) whole cell lysates.



Edc3 (F-9): sc-271806. Immunofluorescence staining of methanol-fixed HeLa cells showing mRNA processing body (p-body) localization. Note DAPI nuclear counter-stain from UltraCruz® Hard-set Mounting Medium (sc-359850).

SELECT PRODUCT CITATIONS

1. Bearss, J.J., et al. 2021. Edc3 phosphorylation regulates growth and invasion through controlling P-body formation and dynamics. *EMBO Rep.* 22: e50835.

STORAGE

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