SANTA CRUZ BIOTECHNOLOGY, INC.

Edc4 (H-12): sc-376382

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Edc4 (enhancer of mRNA decapping 4), also known as human enhancer of decapping large subunit (HEDLS), RCD-8 or Ge-1, is a 1,401 amino acid protein belonging to the WD repeat Edc4 family that is involved in mRNA decapping during mRNA degradation. As part of the mRNA degradation process, Edc4 becomes part of a complex that also contains hDcp1a, hDcp2a, RCK and Edc3. Localizing to P-body and cytoplasm, Edc4 contains a nuclear localization sequence (NLS) which enables it to selectively enter the nucleus as well. Edc4 becomes phosphorylated upon DNA damage and exists as two alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 16q22.1.

CHROMOSOMAL LOCATION

Genetic locus: EDC4 (human) mapping to 16q22.1; Edc4 (mouse) mapping to 8 D3.

SOURCE

Edc4 (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 457-491 within an internal region of Edc4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Edc4 (H-12) is recommended for detection of Edc4 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), immunohistochemistry (including paraffin-embedded sections) (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 Edc4 siRNA (h): sc-93079, Edc4 siRNA (m): sc-143291, Edc4 shRNA Plasmid (h): sc-93079-SH, Edc4 shRNA Plasmid (m): sc-143291-SH, Edc4 shRNA (h) Lentiviral Particles: sc-93079-V and Edc4 shRNA (m) Lentiviral Particles: sc-143291-V.

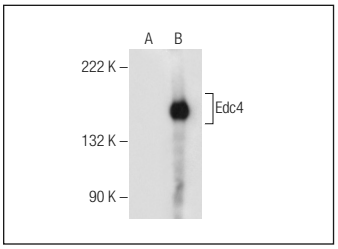
Molecular Weight of Edc4: 152 kDa.

Positive Controls: Edc4 (h): 293T Lysate: sc-116904.

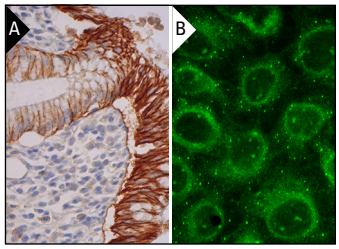
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Edc4 (H-12): sc-376382. Western blot analysis of Edc4 expression in non-transfected: sc-117752 (**A**) and human Edc4 transfected: sc-116904 (**B**) 293T whole cell lysates.



Edc4 (H-12): sc-376382. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane and cytoplasmic staining of glandular cells (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing P-bodies and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Dhillon, P. and Durga Rao, C. 2018. Rotavirus induces formation of remodeled stress granules and P-bodies and their sequestration in viroplasms to promote progeny virus production. J. Virol. 92: e01363-18.
2. Namkoong, S., et al. 2018. Systematic characterization of stress-induced RNA granulation. Mol. Cell 70: 175-187.e8.
3. Gasset-Rosa, F., et al. 2019. Cytoplasmic TDP-43 De-mixing independent of stress granules drives inhibition of nuclear import, loss of nuclear TDP-43, and cell death. Neuron 102: 339-357.e7.
4. Ries, R.J., et al. 2019. m^{6}A enhances the phase separation potential of mRNA. Nature 571: 424-428.
5. Zaccara, S. and Jaffrey, S.R. 2020. A unified model for the function of YTHDF proteins in regulating m^{6}A-modified mRNA. Cell 181: 1582-1595.e18.
6. Liu, X.M., et al. 2021. Selective sorting of microRNAs into exosomes by phase-separated YBX1 condensates. Elife 10: e71982.

RESEARCH USE

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