SANTA CRUZ BIOTECHNOLOGY, INC.

DDX16 (24): sc-135879

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The Power to Question

BACKGROUND

DEAD-box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp, are putative RNA helicases implicated in several cellular processes involving modifications of RNA secondary structure and ribosome/spliceosome assembly. Based on their distribution patterns, some members of this family may be involved in embryogenesis, spermatogenesis and cellular growth and division. DDX16 (DEAD-box protein 16), also known as DHX16, DBP2, PRP8 or PRO2014, is a 1,041 amino acid protein that contains one helicase ATP-binding domain and one helicase C-terminal domain. One of several members of the DEAD-box protein family, DDX16 localizes to the nucleus and is thought to function as an RNA helicase that is involved in pre-mRNA splicing events, playing an important role in cell cycle progression. The gene encoding DDX16 is located on a region of chromosome 6 that is associated with a variety of diseases, including malignancies and genetic mutations, suggesting a possible role for DDX16 in the pathogenesis of certain disorders.

REFERENCES

1. Barta, I. and Iggo, R. 1995. Autoregulation of expression of the yeast Dbp2p "DEAD-box" protein is mediated by sequences in the conserved DBP2 intron. EMBO J. 14: 3800-3808.
2. Imamura, O., et al. 1998. Cloning and characterization of a human DEAH-box RNA helicase, a functional homolog of fission yeast Cdc28/Prp8. Nucleic Acids Res. 26: 2063-2068.
3. Suk, K., et al. 2000. Identification of a novel human member of the DEAD box protein family. Biochim. Biophys. Acta 1501: 63-69.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603405. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Shigenari, A., et al. 2004. Nucleotide sequencing analysis of the swine 433-kb genomic segment located between the non-classical and classical SLA class I gene clusters. Immunogenetics 55: 695-705.
6. Bellare, P., et al. 2006. Ubiquitin binding by a variant JAB1/MPN domain in the essential pre-mRNA splicing factor Prp8p. RNA 12: 292-302.
7. Turner, I.A., et al. 2006. Dissection of Prp8 protein defines multiple interactions with crucial RNA sequences in the catalytic core of the spliceosome. RNA 12: 375-386.

CHROMOSOMAL LOCATION

Genetic locus: DHX16 (human) mapping to 6p21.33; Dhx16 (mouse) mapping to 17 B1.

SOURCE

DDX16 (24) is a mouse monoclonal antibody raised against amino acids 256-366 of DDX16 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

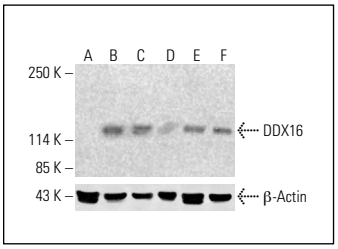
DDX16 (24) is recommended for detection of DDX16 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for DDX16 siRNA (h): sc-95619, DDX16 siRNA (m): sc-142921, DDX16 shRNA Plasmid (h): sc-95619-SH, DDX16 shRNA Plasmid (m): sc-142921-SH, DDX16 shRNA (h) Lentiviral Particles: sc-95619-V and DDX16 shRNA (m) Lentiviral Particles: sc-142921-V.

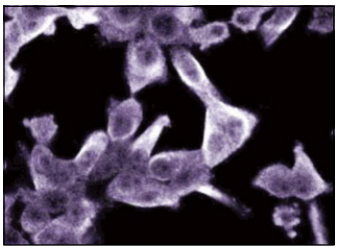
Molecular Weight of DDX16: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or U-87 MG cell lysate: sc-2411.

DATA



DDX16 (24): sc-135879. Western blot analysis of DDX16 expression in untreated HeLa (**A**), chemically-treated HeLa (**B**), K-562 (**C**), untreated HCT-116 (**D**) and chemically-treated HCT-116 (**E**, **F**) whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



DDX16 (24): sc-135879. Immunofluorescence staining of ES-2 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Obuca, M., et al. 2022. Retinitis pigmentosa-linked mutation in DHX38 modulates its splicing activity. PLoS ONE 17: e0265742.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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