

DDX47 (H-9): sc-377333

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. DDX47 (probable ATP-dependent RNA helicase DDX47) is a 455 amino acid protein encoded by the human gene DDX47. DDX47 belongs to the DEAD-box helicase family (DDX47/RRP3 subfamily) and contains one helicase ATP-binding domain and one helicase C-terminal domain. DDX47 is believed to be a probable ATP-dependent RNA helicase. RNA helicases are highly conserved enzymes that utilize the energy derived from NTP hydrolysis to modulate the structure of RNA. RNA helicases participate in all biological processes that involve RNA, including transcription, splicing and translation.

REFERENCES

1. O'Day, C.L., et al. 1996. 18S rRNA processing requires the RNA helicase-like protein Rrp3. *Nucleic Acids Res.* 24: 3201-3207.
2. Doorbar, J., et al. 2000. The E1E4 protein of human papillomavirus type 16 associates with a putative RNA helicase through sequences in its C terminus. *J. Virol.* 74: 10081-10095.

CHROMOSOMAL LOCATION

Genetic locus: DDX47 (human) mapping to 12p13.1; Ddx47 (mouse) mapping to 6 G1.

SOURCE

DDX47 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 395-429 near the C-terminus of DDX47 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.

DDX47 (H-9) is available conjugated to agarose (sc-377333 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377333 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377333 PE), fluorescein (sc-377333 FITC), Alexa Fluor® 488 (sc-377333 AF488), Alexa Fluor® 546 (sc-377333 AF546), Alexa Fluor® 594 (sc-377333 AF594) or Alexa Fluor® 647 (sc-377333 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377333 AF680) or Alexa Fluor® 790 (sc-377333 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377333 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

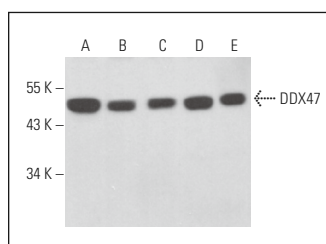
DDX47 (H-9) is recommended for detection of DDX47 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 DDX47 siRNA (h): sc-96180, DDX47 siRNA (m): sc-142940, DDX47 shRNA Plasmid (h): sc-96180-SH, DDX47 shRNA Plasmid (m): sc-142940-SH, DDX47 shRNA (h) Lentiviral Particles: sc-96180-V and DDX47 shRNA (m) Lentiviral Particles: sc-142940-V.

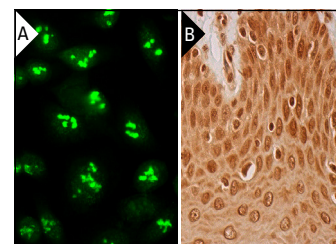
Molecular Weight of DDX47: 51 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

DATA



DDX47 (H-9): sc-377333. Western blot analysis of DDX47 expression in Hep G2 (A), Jurkat (B), HeLa (C), 3T3-L1 (D) and KNRK (E) whole cell lysates.



DDX47 (H-9): sc-377333. Immunofluorescence staining of formalin-fixed SW480 cells showing nucleolar localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nucleolar, nuclear and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2022. DDX47 promotes cell proliferation and migration in lung adenocarcinoma. *Pathol. Res. Pract.* 234: 153921.
2. Marchena-Cruz, E., et al. 2023. DDX47, MeCP2, and other functionally heterogeneous factors protect cells from harmful R loops. *Cell Rep.* 42: 112148.

RESEARCH USE

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

PROTOCOLS

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