

DDX31 (G-12): sc-131909

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. DDX31 (DEAD-box protein 31), also known as Helicain, is an 851 amino acid protein that contains one helicase ATP-binding domain and one helicase C-terminal domain. Localized to the nucleus, DDX31 is thought to function as an ATP-dependent RNA helicase that is involved in pre-mRNA splicing events, possibly playing a role in cell cycle progression. Four isoforms of DDX31 exist due to alternative splicing events.

REFERENCES

- Gorbalenya, A.E., Koonin, E.V., Donchenko, A.P. and Blinov, V.M. 1989. Two related superfamilies of putative helicases involved in replication, recombination, repair and expression of DNA and RNA genomes. *Nucleic Acids Res.* 17: 4713-4730.
- Tanner, N.K. and Linder, P. 2001. DExD/H box RNA helicases: from generic motors to specific dissociation functions. *Mol. Cell* 8: 251-262.
- Caruthers, J.M. and McKay, D.B. 2002. Helicase structure and mechanism. *Curr. Opin. Struct. Biol.* 12: 123-133.
- Scherl, A., Couté, Y., Déon, C., Callé, A., Kindbeiter, K., Sanchez, J.C., Greco, A., Hochstrasser, D. and Diaz, J.J. 2002. Functional proteomic analysis of human nucleolus. *Mol. Biol. Cell* 13: 4100-4109.
- Abdelhaleem, M., Maltais, L. and Wain, H. 2003. The human DDX and DHX gene families of putative RNA helicases. *Genomics* 81: 618-622.
- Andersen, J.S., Lam, Y.W., Leung, A.K., Ong, S.E., Lyon, C.E., Lamond, A.I. and Mann, M. 2005. Nucleolar proteome dynamics. *Nature* 433: 77-83.

CHROMOSOMAL LOCATION

Genetic locus: DDX31 (human) mapping to 9q34.13; Ddx31 (mouse) mapping to 2 A3.

SOURCE

DDX31 (G-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DDX31 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131909 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

DDX31 (G-12) is recommended for detection of DDX31 isoforms 1-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other DDX family members.

DDX31 (G-12) is also recommended for detection of DDX31 isoforms 1-4 in additional species, including canine and avian.

Suitable for use as control antibody for DDX31 siRNA (h): sc-92524, DDX31 siRNA (m): sc-142931, DDX31 shRNA Plasmid (h): sc-92524-SH, DDX31 shRNA Plasmid (m): sc-142931-SH, DDX31 shRNA (h) Lentiviral Particles: sc-92524-V and DDX31 shRNA (m) Lentiviral Particles: sc-142931-V.

Molecular Weight (predicted) of DDX31 isoforms: 94/85/64/35 kDa.

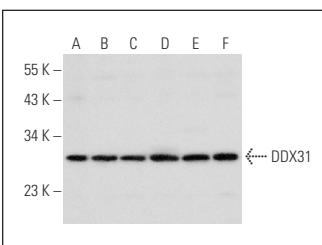
Molecular Weight (observed) of DDX31 isoforms: 30/58 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or A549 cell lysate: sc-2413.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



DDX31 (G-12): sc-131909. Western blot analysis of DDX31 expression in HL-60 nuclear extract (A) and HEK293 (B), Jurkat (C), U-251-MG (D), A549 (E) and K-562 (F) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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