

DDX21 (F-6): sc-376573

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. DDX21 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 21), also known as GUA or GURDB, is a 783 amino acid protein that localizes to the nucleus and contains one helicase C-terminal domain and one helicase ATP-binding domain. Existing as multiple alternatively spliced isoforms, DDX21 functions as a component of the multi-protein B-WICH complex and acts as both a helicase that can unwind double-stranded RNA and as a foldase that can introduce secondary structures into single-stranded RNA. DDX21 exists as an autoantigen in people affected by watermelon stomach disease which is often characterized by chronic gastrointestinal bleeding.

REFERENCES

- Schmid, S.R., et al. 1992. D-E-A-D protein family of putative RNA helicases. *Mol. Microbiol.* 6: 283-291.
- Valdez, B.C., et al. 1996. A nucleolar RNA helicase recognized by autoimmune antibodies from a patient with watermelon stomach disease. *Nucleic Acids Res.* 24: 1220-1224.
- Valdez, B.C., et al. 2000. Mouse RNA helicase II/Gu: cDNA and genomic sequences, chromosomal localization, and regulation of expression. *Genomics* 66: 184-194.
- Zhu, K., et al. 2001. Human RNA helicase II/Gu gene: genomic organization and promoter analysis. *Biochem. Biophys. Res. Commun.* 281: 1006-1011.
- Valdez, B.C., et al. 2002. Genomic structure of newly identified paralogue of RNA helicase II/Gu: detection of pseudogenes and multiple alternatively spliced mRNAs. *Gene* 284: 53-61.
- Cordin, O., et al. 2004. The newly discovered Q motif of DEAD-box RNA helicases regulates RNA-binding and helicase activity. *EMBO J.* 23: 2478-2487.
- Linder, P. 2006. Dead-box proteins: a family affair—active and passive players in RNP-remodeling. *Nucleic Acids Res.* 34: 4168-4180.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 606357. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: DDX21 (human) mapping to 10q22.1; Ddx21 (mouse) mapping to 10 B4.

SOURCE

DDX21 (F-6) is a mouse monoclonal antibody raised against amino acids 754-851 mapping at the C-terminus of DDX21 of mouse origin.

RESEARCH USE

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

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.

APPLICATIONS

DDX21 (F-6) is recommended for detection of DDX21 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 DDX21 siRNA (h): sc-90420, DDX21 siRNA (m): sc-142925, DDX21 shRNA Plasmid (h): sc-90420-SH, DDX21 shRNA Plasmid (m): sc-142925-SH, DDX21 shRNA (h) Lentiviral Particles: sc-90420-V and DDX21 shRNA (m) Lentiviral Particles: sc-142925-V.

Molecular Weight of DDX21 isoforms: 87/80 kDa.

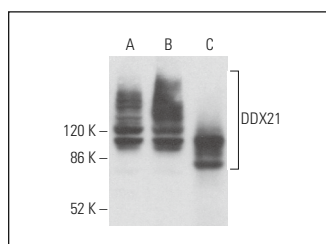
Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or c4 whole cell lysate: sc-364186.

RECOMMENDED SUPPORT REAGENTS

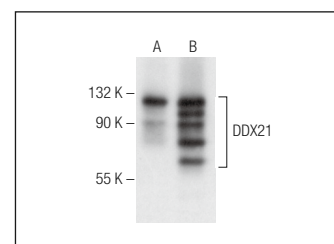
To ensure optimal results, the following support reagents are recommended:

- 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.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 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



DDX21 (F-6): sc-376573. Western blot analysis of DDX21 expression in Hep G2 (A), HeLa (B) and C6 (C) whole cell lysates.



DDX21 (F-6): sc-376573. Western blot analysis of DDX21 expression in AMJ2-C8 (A) and c4 (B) whole cell lysates.

STORAGE

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

PROTOCOLS

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