SANTA CRUZ BIOTECHNOLOGY, INC.

DDX21 (F-5): sc-376758

SANTA CRUZ BIOTECHNOLOGY

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. 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

1. Schmid, S.R. and Linder, P. 1992. D-E-A-D protein family of putative RNA helicases. Mol. Microbiol. 6: 283-291.
2. 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.
3. 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.
4. Zhu, K., et al. 2001. Human RNA helicase II/Gu gene: genomic organization and promoter analysis. Biochem. Biophys. Res. Commun. 281: 1006-1011.

CHROMOSOMAL LOCATION

Genetic locus: Ddx21 (mouse) mapping to 10 B4.

SOURCE

DDX21 (F-5) is a mouse monoclonal antibody raised against amino acids 754-851 mapping at the C-terminus of DDX21 of mouse 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.

DDX21 (F-5) is available conjugated to agarose (sc-376758 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376758 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376758 PE), fluorescein (sc-376758 FITC), Alexa Fluor® 488 (sc-376758 AF488), Alexa Fluor® 546 (sc-376758 AF546), Alexa Fluor® 594 (sc-376758 AF594) or Alexa Fluor® 647 (sc-376758 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376758 AF680) or Alexa Fluor® 790 (sc-376758 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

DDX21 (F-5) is recommended for detection of DDX21 of mouse 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 (m): sc-142925, DDX21 shRNA Plasmid (m): sc-142925-SH and DDX21 shRNA (m) Lentiviral Particles: sc-142925-V.

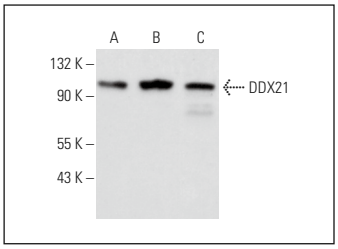
Molecular Weight of DDX21 isoforms: 87/80 kDa.

Positive Controls: F9 cell lysate: sc-2245, Neuro-2A whole cell lysate: sc-364185 or SP2/0 whole cell lysate: sc-364795.

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.

DATA



DDX21 (F-5): sc-376758. Western blot analysis of DDX21 expression in F9 (**A**), Neuro-2A (**B**) and SP2/0 (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Corsini, N.S., et al. 2018. Coordinated control of mRNA and rRNA processing controls embryonic stem cell pluripotency and differentiation. Cell Stem Cell 22: 543-558.e12.
2. Suzuki, H., et al. 2018. The proline-arginine repeat protein linked to C9-ALS/FTD causes neuronal toxicity by inhibiting the DEAD-box RNA helicase-mediated ribosome biogenesis. Cell Death Dis. 9: 975.

RESEARCH USE

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