SANTA CRUZ BIOTECHNOLOGY, INC.

DDX21 (D-8): sc-376953

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.

CHROMOSOMAL LOCATION

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

SOURCE

DDX21 (D-8) is a mouse monoclonal antibody raised against amino acids 684-777 mapping near the C-terminus of DDX21 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDX21 (D-8) is available conjugated to agarose (sc-376953 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376953 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376953 PE), fluorescein (sc-376953 FITC), Alexa Fluor® 488 (sc-376953 AF488), Alexa Fluor® 546 (sc-376953 AF546), Alexa Fluor® 594 (sc-376953 AF594) or Alexa Fluor® 647 (sc-376953 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376953 AF680) or Alexa Fluor® 790 (sc-376953 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DDX21 (D-8) 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), 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 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.

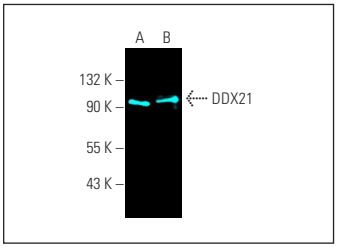
Molecular Weight of DDX21 isoforms: 87/80 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

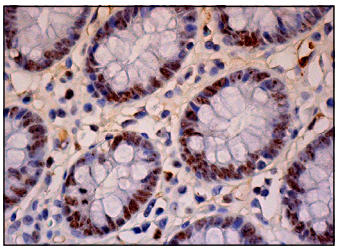
STORAGE

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

DATA



DDX21 (D-8) Alexa Fluor® 647: sc-376953 AF647. Direct fluorescent western blot analysis of DDX21 expression in K-562 (**A**) and U-698-M (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



DDX21 (D-8): sc-376953. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Blank, M.F., et al. 2017. SIRT7-dependent deacetylation of CDK9 activates RNA polymerase II transcription. Nucleic Acids Res. 45: 2675-2686.
2. Zhou, B., et al. 2019. Endogenous retrovirus-derived long noncoding RNA enhances innate immune responses via derepressing RELA expression. mBio 10: e00937-19.
3. Kim, B., et al. 2020. Discovery of widespread host protein interactions with the pre-replicated genome of CHIKV using VIR-CLASP. Mol. Cell 78: 624-640.e7.
4. Kim, S., et al. 2020. ATAD5 restricts R-loop formation through PCNA unloading and RNA helicase maintenance at the replication fork. Nucleic Acids Res. 48: 7218-7238.
5. Puvvula, P.K. and Moon, A.M. 2021. Novel cell-penetrating peptides derived from scaffold-attachment-factor A inhibits cancer cell proliferation and survival. Front. Oncol. 11: 621825.
6. Puvvula, P.K., et al. 2021. Inhibiting an RBM39/MLL1 epigenomic regulatory complex with dominant-negative peptides disrupts cancer cell transcription and proliferation. Cell Rep. 35: 109156.
7. Puvvula, P.K., et al. 2021. hnRNPK-derived cell-penetratingpeptide inhibits cancer cell survival. Mol. Ther. Oncolytics 23: 342-354.
8. Miyake, S. and Masuda, S. 2022. Inhibition of mitochondrial complex III or dihydroorotate dehydrogenase (DHODH) triggers formation of poly(A)+ RNA foci adjacent to nuclear speckles following activation of ATM (ataxia telangiectasia mutated). RNA Biol. 19: 1244-1255.
9. Yang, B.Z., et al. 2024. DHX9 SUMOylation is required for the suppression of R-loop-associated genome instability. Nat. Commun. 15: 6009.

RESEARCH USE

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