SANTA CRUZ BIOTECHNOLOGY, INC.

DDX11 (D-2): sc-271711

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. DDX11 (DEAD/H box protein 11), also known as CHLR1 or KRG2, is a member of the DEAD-box protein family and possesses both ATPase and DNA helicase activity. A homolog of the *S. cerevisiae* CHL1 protein, DDX11 is localized to the nucleus and is highly expressed in the testis, thymus, ovary, spleen and pancreas. DDX11 can bind to both single- and double-stranded DNA and is essential for proper chromosome segregation and embryonic development. Five isoforms of DDX11 exist due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: DDX11 (human) mapping to 12p11.21.

SOURCE

DDX11 (D-2) is a mouse monoclonal antibody raised against amino acids 405-704 mapping within an internal region of DDX11 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDX11 (D-2) is available conjugated to agarose (sc-271711 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271711 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271711 PE), fluorescein (sc-271711 FITC), Alexa Fluor® 488 (sc-271711 AF488), Alexa Fluor® 546 (sc-271711 AF546), Alexa Fluor® 594 (sc-271711 AF594) or Alexa Fluor® 647 (sc-271711 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271711 AF680) or Alexa Fluor® 790 (sc-271711 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

DDX11 (D-2) is recommended for detection of DDX11 of 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 DDX11 siRNA (h): sc-77104, DDX11 shRNA Plasmid (h): sc-77104-SH and DDX11 shRNA (h) Lentiviral Particles: sc-77104-V.

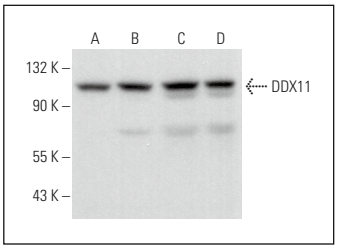
Molecular Weight of DDX11: 112 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

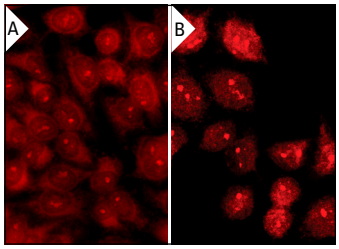
RECOMMENDED SUPPORT REAGENTS

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



DDX11 (D-2): sc-271711. Western blot analysis of DDX11 expression in HeLa (**A**), K-562 (**B**), SUP-T1 (**C**) and Jurkat (**D**) whole cell lysates.



DDX11 (D-2): sc-271711. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization. Detection reagent used: goat anti-mouse IgG_{2b}-TR: sc-2981 (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Cortone, G., et al. 2018. Interaction of the Warsaw breakage syndrome DNA helicase DDX11 with the replication fork-protection factor timeless promotes sister chromatid cohesion. PLoS Genet. 14: e1007622.
2. Bottega, R., et al. 2019. Two further patients with Warsaw breakage syndrome. Is a mild phenotype possible? Mol. Genet. Genomic Med. 7: e639.
3. Simon, A.K., et al. 2020. The iron-sulfur helicase DDX11 promotes the generation of single-stranded DNA for CHK1 activation. Life Sci. Alliance 3: e201900547.
4. Lerner, L.K., et al. 2020. Timeless couples G-quadruplex detection with processing by DDX11 helicase during DNA replication. EMBO J. 39: e104185.
5. Jegadesan, N.K. and Branzei, D. 2021. DDX11 loss causes replication stress and pharmacologically exploitable DNA repair defects. Proc. Natl. Acad. Sci. USA 118: e2024258118.
6. Bottega, R., et al. 2021. Genomic integrity and mitochondrial metabolism defects in Warsaw syndrome cells: a comparison with Fanconi anemia. J. Cell. Physiol. 236: 5664-5675.

RESEARCH USE

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