SANTA CRUZ BIOTECHNOLOGY, INC.

DDX33 (A-3): sc-390574

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. DDX33 (DEAD (Asp-Glu-Ala-His) box polypeptide 33), also known as DHX33, is a 707 amino acid nucleolar protein belonging to the DEAD box helicase family. Containing a helicase ATP-binding domain and a helicase C-terminal domain, DDX33 is encoded by a gene located on human chromosome 17. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes. Two isoforms of DDX33 exists due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: DHX33 (human) mapping to 17p13.2; Dhx33 (mouse) mapping to 11 B4.

SOURCE

DDX33 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 686-707 at the C-terminus of DDX33 of human 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.

Blocking peptide available for competition studies, sc-390574 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

DDX33 (A-3) is recommended for detection of DDX33 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 DDX33 siRNA (h): sc-93804, DDX33 siRNA (m): sc-143037, DDX33 shRNA Plasmid (h): sc-93804-SH, DDX33 shRNA Plasmid (m): sc-143037-SH, DDX33 shRNA (h) Lentiviral Particles: sc-93804-V and DDX33 shRNA (m) Lentiviral Particles: sc-143037-V.

Molecular Weight (predicted) of DDX33 isoforms: 79/60 kDa.

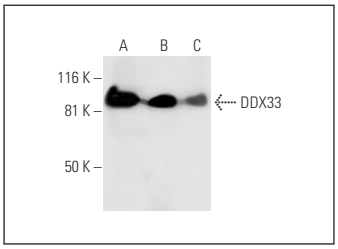
Molecular Weight (observed) of DDX33 isoforms: 69/81 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

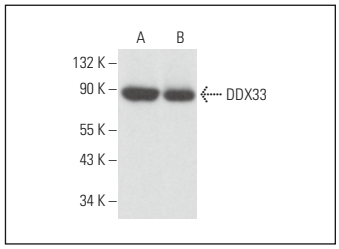
RECOMMENDED SUPPORT REAGENTS

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



DDX33 (A-3): sc-390574. Western blot analysis of DDX33 expression in HeLa (**A**) and MDA-MB 231 (**B**) whole cell lysates and HeLa nuclear extract (**C**).



DDX33 (A-3): sc-390574. Western blot analysis of DDX33 expression in HeLa (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2019. DHX33 interacts with AP-2β to regulate Bcl-2 gene expression and promote cancer cell survival. Mol. Cell. Biol. 39: e00017-19.
2. Feng, W., et al. 2020. DHX33 recruits Gadd45a to cause DNA demethylation and regulate a subset of gene transcription. Mol. Cell. Biol. 40: e00460-19.
3. Peng, C., et al. 2021. Function of DHX33 in promoting Warburg effect via regulation of glycolytic genes. J. Cell. Physiol. 236: 981-996.
4. Zhang, Y., et al. 2022. GSK-3β phosphorylation of DHX33 leads to its ubiquitination mediated protein degradation. Cell. Signal. 101: 110526.

RESEARCH USE

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

PROTOCOLS

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