SANTA CRUZ BIOTECHNOLOGY, INC.

# DDX33 (B-4): sc-390573

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. 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 17p13.2. 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.

## 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. Will, C.L., et al. 2002. Characterization of novel SF3b and 17S U2 snRNP proteins, including a human Prp5p homologue and an SF3b DEAD-box protein. EMBO J. 21: 4978-4988.
3. Abdelhaleem, M., et al. 2003. The human DDX and DHX gene families of putative RNA helicases. Genomics 81: 618-622.


## CHROMOSOMAL LOCATION

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

## SOURCE

DDX33 (B-4) 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 $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDX33 (B-4) is available conjugated to agarose (sc-390573 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390573 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390573 PE), fluorescein (sc-390573 FITC), Alexa Fluor® 488 (sc-390573 AF488), Alexa Fluor® 546 (sc-390573 AF546), Alexa Fluor® 594 (sc-390573 AF594) or Alexa Fluor® 647 (sc-390573 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390573 AF680) or Alexa Fluor® 790 (sc-390573 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390573 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).



## RESEARCH USE

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

## APPLICATIONS

DDX33 (B-4) 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).

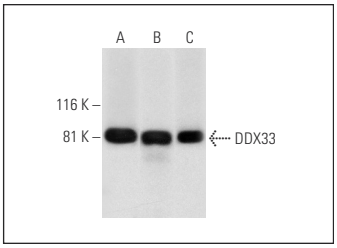
Suitable for use as control antibody for DDX33 siRNA (h): sc-93804, DDX33 siRNA (m): sc-143037, DDX33 shRNA Plasmid (h): sc-93804-SH, DDX33 shRNA Plasmid (m): sc-143037-SH, DDX33 shRNA (h) Lentiviral Particles: sc-93804-V and DDX33 shRNA (m) Lentiviral Particles: sc-143037-V.

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

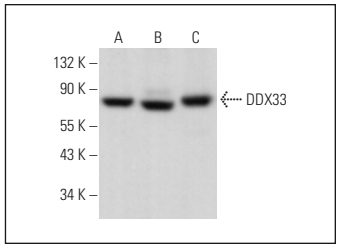
Molecular Weight (observed) of DDX33 isoforms: 69/81 kDa.

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

## DATA




DDX33 (B-4): sc-390573. Western blot analysis of DDX33 expression in HeLa (**A**) and MDA-MB-231 (**B**) whole cell lysates and HeLa nuclear extract (**C**).




DDX33 (B-4): sc-390573. Western blot analysis of DDX33 expression in IMR-32 (**A**), NIH/3T3 (**B**) and F9 (**C**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. da Costa, L.S., et al. 2019. RNA viruses promote activation of the NLRP3 inflammasome through cytopathogenic effect-induced potassium efflux. Cell Death Dis. 10: 346.
2. 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-e00019.
3. Zhu, Y., et al. 2020. DHX33 promotes colon cancer development downstream of Wnt signaling. Gene 735: 144402.
4. 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.
5. Peng, C., et al. 2020. Function of DHX33 in promoting Warburg effect via regulation of glycolytic genes. J. Cell. Physiol. E-published.


## STORAGE

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