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DHX36 Antibody

Catalog # ASC11592

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9H2U1
Other Accession	NP_065916, 167830433
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	114760
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	DHX36 antibody can be used for detection of DHX36 by Western blot at 0.5 - 1 g/mL.

Additional Information

Gene ID	170506
Other Names	ATP-dependent RNA helicase DHX36, 3.6.4.12, 3.6.4.13, DEAH box protein 36, G4-resolvase 1, G4R1, MLE-like protein 1, RNA helicase associated with AU-rich element ARE, DHX36, DDX36, KIAA1488, MLEL1, RHAU
Target/Specificity	DHX36; At least four isoforms of DDX36 are known to exist; this antibody will detect the three longest isoforms.
Reconstitution & Storage	DHX36 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	DHX36 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DHX36 (HGNC:14410)
Function	Multifunctional ATP-dependent helicase that unwinds G- quadruplex (G4) structures (PubMed:16150737, PubMed:18854321, PubMed:20472641, PubMed:21586581). Plays a role in many biological processes such as genomic integrity, gene expression regulations and as a sensor to initiate antiviral responses (PubMed:14731398, PubMed:18279852, PubMed:21993297, PubMed:22238380, PubMed:25579584). G4 structures correspond to helical structures containing guanine tetrads (By similarity). Binds with high affinity to and unwinds G4 structures that are formed in nucleic acids (G4-DNA and G4-RNA) (PubMed:16150737, PubMed:18842585, PubMed:20472641, PubMed:21586581, PubMed:24369427,

PubMed:26195789). Plays a role in genomic integrity (PubMed:22238380). Converts the G4-RNA structure present in telomerase RNA template component (TREC) into a double-stranded RNA to promote P1 helix formation that acts as a template boundary ensuring accurate reverse transcription (PubMed:20472641, PubMed:21149580, PubMed:21846770, PubMed:22238380, PubMed:24151078, PubMed:25579584). Plays a role in transcriptional regulation (PubMed:21586581, PubMed:21993297). Resolves G4-DNA structures in promoters of genes, such as YY1, KIT/c-kit and ALPL and positively regulates their expression (PubMed:21993297). Plays a role in post-transcriptional regulation (PubMed:27940037). Unwinds a G4-RNA structure located in the 3'-UTR polyadenylation site of the pre- mRNA TP53 and stimulates TP53 pre-mRNA 3'-end processing in response to ultraviolet (UV)-induced DNA damage (PubMed:27940037). Binds to the precursor-microRNA-134 (pre-miR-134) terminal loop and regulates its transport into the synapto-dendritic compartment (By similarity). Involved in the pre-miR-134-dependent inhibition of target gene expression and the control of dendritic spine size (By similarity). Plays a role in the regulation of cytoplasmic mRNA translation and mRNA stability (PubMed:24369427, PubMed:26489465). Binds to both G4-RNA structures and alternative non-quadruplex-forming sequence within the 3'-UTR of the PITX1 mRNA regulating negatively PITX1 protein expression (PubMed:24369427). Binds to both G4-RNA structure in the 5'-UTR and AU- rich elements (AREs) localized in the 3'-UTR of NKX2-5 mRNA to either stimulate protein translation or induce mRNA decay in an ELAVL1- dependent manner, respectively (PubMed:26489465). Also binds to ARE sequences present in several mRNAs mediating exosome-mediated 3'-5' mRNA degradation (PubMed:14731398, PubMed:18279852). Involved in cytoplasmic urokinase-type plasminogen activator (uPA) mRNA decay (PubMed:14731398). Component of a multi-helicase-TICAM1 complex that acts as a cytoplasmic sensor of viral double-stranded RNA (dsRNA) and plays a role in the activation of a cascade of antiviral responses including the induction of pro-inflammatory cytokines via the adapter molecule TICAM1 (By similarity). Required for early embryonic development and hematopoiesis. Involved in the regulation of cardioblast differentiation and proliferation during heart development. Involved in spermatogonia differentiation. May play a role in ossification (By similarity).

Cellular Location

Nucleus. Cytoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q8VHK9}. Cytoplasm, Stress granule. Nucleus speckle. Chromosome, telomere. Mitochondrion {ECO:0000250|UniProtKB:Q8VHK9}. Perikaryon {ECO:0000250|UniProtKB:D4A2Z8}. Cell projection, dendrite {ECO:0000250|UniProtKB:D4A2Z8}. Cell projection, axon {ECO:0000250|UniProtKB:D4A2Z8}. Note=Predominantly localized in the nucleus (PubMed:18279852). Colocalizes with SRSF2 in nuclear speckles (PubMed:18279852). Colocalizes with DDX5 in nucleolar caps upon transcription inhibition (PubMed:18279852). Accumulates and colocalized with TIA1 in cytoplasmic stress granules (SGs) in an arsenite-, heat shock- and RNA-binding-dependent manner (PubMed:18854321). Shuttles into and out of SGs in an ATPase-dependent manner (PubMed:18854321) Colocalizes in the cytosol with the multi-helicase-TICAM1 complex that translocates to the mitochondria upon poly(I:C) RNA ligand stimulation (By similarity). {ECO:0000250|UniProtKB:Q8VHK9, ECO:0000269|PubMed:18279852, ECO:0000269|PubMed:18854321} [Isoform 2]: Nucleus. Cytoplasm Note=Preferentially localized in the cytoplasm (PubMed:14731398) Excluded from nucleoli (PubMed:14731398)

Tissue Location

Highly expressed in testis.

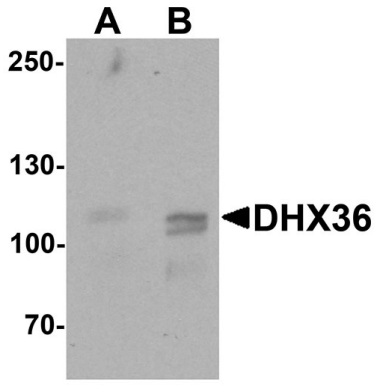
Background

DHX36 Antibody: 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. DHX36 (DEAH box protein 36), also known as MLE-like protein 1 and RNA helicase associated with AU-rich element ARE (RHAU), belongs to RNA helicase of the DEAH family and may function in sex development and spermatogenesis. It is expressed in testis and is evolutionary conserved with true orthologs in almost all animal species. DHX36 plays a role in degradation and deadenylation of mRNAs containing in their 3'-UTR the consensus ARE sequence element. DHX36 is required for early embryogenesis.

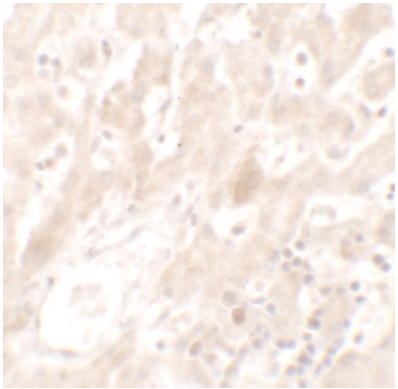
References

Cordin O, Banroques J, Tanner NK, et al. The DEAD-box protein family of RNA helicases. Gene 2006; 367:17-37.
Linder P. Dead-box proteins: a family affair—active and passive players in RNP-remodeling. Nucleic Acids Res. 2006; 34:4168-80.
Lattmann S, Giri B, Vaughn JP, et al. Role of the amino terminal RHAU-specific motif in the recognition and resolution of guanine quadruplex-RNA by the DEAH-box RNA helicase RHAU. Nucleic Acids Res. 2010; 38:6219-33.
Fu JJ, Li LY, Liu SF, et al. Expression research for human DDX36 and mouse Ddx36 gene in the adult testis. Yi Chuan Xue Bao 2003; 30: 201-208.

Images



Western blot analysis of DHX36 in mouse liver tissue lysate with DHX36 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunohistochemistry of DHX36 in human liver tissue with DHX36 antibody at 5 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.