10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DHX36 (9T10) Rabbit Monoclonal Antibody

DHX36 (9T10) Rabbit Monoclonal Antibody
Catalog # AP93782

Product Information

Application	WB, IP
Primary Accession	Q8VHK9
Reactivity	Mouse
Clonality	Monoclonal
Calculated MW	113883

Additional Information

Gene ID	72162
Other Names	ATP-dependent DNA/RNA helicase DHX36, 3.6.4.13, Dhx36 {ECO:0000312|MGI:MGI:1919412}
Dilution	WB~~1:1000 IP~~N/A
Storage Conditions	-20℃

Protein Information

Name	Dhx36 {ECO:0000312|MGI:MGI:1919412}
Function	Multifunctional ATP-dependent helicase that unwinds G- quadruplex (G4) structures (PubMed:25611385). Plays a role in many biological processes such as genomic integrity, gene expression regulations and as a sensor to initiate antiviral responses (PubMed:21590736, PubMed:21703541). 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) (By similarity). Plays a role in genomic integrity (By similarity). 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 (By similarity). Plays a role in transcriptional regulation. Resolves G4-DNA structures in promoters of genes, such as YY1, KIT/c-kit and ALPL and positively regulates their expression (By similarity) (PubMed:25611385). Plays a role in post-transcriptional regulation (By similarity). 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 (By similarity). 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

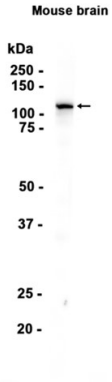
	cytoplasmic mRNA translation and mRNA stability (By similarity). Binds to both G4-RNA structures and alternative non-quadruplex-forming sequence within the 3'-UTR of the PITX1 mRNA regulating negatively PITX1 protein expression (By similarity). Binds to both G4-RNA structure in the 5'-UTR and AU-rich 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 (By similarity). Also binds to ARE sequences present in several mRNAs mediating exosome- mediated 3'-5' mRNA degradation (By similarity). Involved in cytoplasmic urokinase-type plasminogen activator (uPA) mRNA decay (By similarity). 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 (PubMed:21703541). Required for the early embryonic development and hematopoiesis (PubMed:22422825). Involved in the regulation of cardioblast differentiation and proliferation during heart development (PubMed:26489465). Involved in spermatogonia differentiation (PubMed:25611385). May play a role in ossification (PubMed:21590736).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q9H2U1}. Cytoplasm {ECO:0000250|UniProtKB:Q9H2U1}. Cytoplasm, cytosol. Cytoplasm, Stress granule {ECO:0000250|UniProtKB:Q9H2U1}. Nucleus speckle {ECO:0000250|UniProtKB:Q9H2U1}. Chromosome, telomere {ECO:0000250|UniProtKB:Q9H2U1}. Mitochondrion. 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. Colocalizes with SRSF2 in nuclear speckles. Colocalizes with DDX5 in nucleolar caps upon transcription inhibition. Accumulates and colocalized with TIA1 in cytoplasmic stress granules (SGs) in an arsenite-, heat shock- and RNA-binding-dependent manner. Shuttles into and out of SGs in an ATPase-dependent manner (By similarity) Colocalizes in the cytosol with the multi-helicase-TICAM1 complex that translocates to the mitochondria upon poly(I:C) stimulation (PubMed:21703541). {ECO:0000250|UniProtKB:Q9H2U1, ECO:0000269|PubMed:21703541}
Tissue Location	Expressed in spermatogonia stem cells and primary spermatocytes (at protein level) (PubMed:25611385). Expressed strongly in testis. Weakly expressed in heart, lung, liver, kidney, small intestine, spleen, lymphe node and thymus (PubMed:25611385)

Background

Enables DNA helicase activity; histone deacetylase binding activity; and nucleic acid binding activity. Involved in several processes, including G-quadruplex DNA unwinding; positive regulation of cell differentiation; and regulation of transcription by RNA polymerase II. Acts upstream of or within response to exogenous dsRNA and response to virus. Located in cytosol. Is expressed in heart and telencephalon. Orthologous to human DHX36 (DEAH-box helicase 36). [provided by Alliance of Genome Resources, Apr 2022]

Images

Western blot analysis of extracts from Mouse brain tissue using AP93782 at 1:1000.



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