

**DHX36 Antibody (C-Terminus)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS16004****Specification**

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**DHX36 Antibody (C-Terminus) - Product Information**

Application	IHC
Primary Accession	<a href="#">O9H2U1</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	115kDa KDa

**DHX36 Antibody (C-Terminus) - 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**

At least four isoforms of DDX36 are known to exist; this antibody will detect the three longest isoforms.

**Reconstitution & Storage**

Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

**Precautions**

DHX36 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

**DHX36 Antibody (C-Terminus) - Protein Information****Name** DHX36 ([HGNC:14410](#))**Function**

Multifunctional ATP-dependent helicase that unwinds G- quadruplex (G4) structures (PubMed:<a href="http://www.uniprot.org/citations/16150737" target="\_blank">16150737</a>, PubMed:<a href="http://www.uniprot.org/citations/18854321" target="\_blank">18854321</a>, PubMed:<a href="http://www.uniprot.org/citations/20472641" target="\_blank">20472641</a>, PubMed:<a href="http://www.uniprot.org/citations/21586581" target="\_blank">21586581</a>). Plays a role in many biological processes such as genomic integrity, gene expression regulations and as a sensor to initiate antiviral responses (PubMed:<a href="http://www.uniprot.org/citations/14731398" target="\_blank">14731398</a>, PubMed:<a href="http://www.uniprot.org/citations/18279852" target="\_blank">18279852</a>, PubMed:<a href="http://www.uniprot.org/citations/21993297" target="\_blank">21993297</a>, PubMed:<a href="http://www.uniprot.org/citations/21993297" target="\_blank">21993297</a>).

href="http://www.uniprot.org/citations/22238380" target="\_blank">22238380</a>, PubMed:<a href="http://www.uniprot.org/citations/25579584" target="\_blank">25579584</a>). 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-ADN and G4-RNA) (PubMed:<a href="http://www.uniprot.org/citations/16150737" target="\_blank">16150737</a>, PubMed:<a href="http://www.uniprot.org/citations/18842585" target="\_blank">18842585</a>, PubMed:<a href="http://www.uniprot.org/citations/20472641" target="\_blank">20472641</a>, PubMed:<a href="http://www.uniprot.org/citations/21586581" target="\_blank">21586581</a>, PubMed:<a href="http://www.uniprot.org/citations/24369427" target="\_blank">24369427</a>, PubMed:<a href="http://www.uniprot.org/citations/26195789" target="\_blank">26195789</a>). Plays a role in genomic integrity (PubMed:<a href="http://www.uniprot.org/citations/22238380" target="\_blank">22238380</a>). 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:<a href="http://www.uniprot.org/citations/20472641" target="\_blank">20472641</a>, PubMed:<a href="http://www.uniprot.org/citations/21149580" target="\_blank">21149580</a>, PubMed:<a href="http://www.uniprot.org/citations/21846770" target="\_blank">21846770</a>, PubMed:<a href="http://www.uniprot.org/citations/22238380" target="\_blank">22238380</a>, PubMed:<a href="http://www.uniprot.org/citations/24151078" target="\_blank">24151078</a>, PubMed:<a href="http://www.uniprot.org/citations/25579584" target="\_blank">25579584</a>). Plays a role in transcriptional regulation (PubMed:<a href="http://www.uniprot.org/citations/21586581" target="\_blank">21586581</a>, PubMed:<a href="http://www.uniprot.org/citations/21993297" target="\_blank">21993297</a>). Resolves G4-DNA structures in promoters of genes, such as YY1, KIT/c-kit and ALPL and positively regulates their expression (PubMed:<a href="http://www.uniprot.org/citations/21993297" target="\_blank">21993297</a>). Plays a role in post-transcriptional regulation (PubMed:<a href="http://www.uniprot.org/citations/27940037" target="\_blank">27940037</a>). 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:<a href="http://www.uniprot.org/citations/27940037" target="\_blank">27940037</a>). 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:<a href="http://www.uniprot.org/citations/24369427" target="\_blank">24369427</a>, PubMed:<a href="http://www.uniprot.org/citations/26489465" target="\_blank">26489465</a>). 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:<a href="http://www.uniprot.org/citations/24369427" target="\_blank">24369427</a>). 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:<a href="http://www.uniprot.org/citations/26489465" target="\_blank">26489465</a>). Binds also to ARE sequences present in several mRNAs mediating exosome-mediated 3'-5' mRNA degradation (PubMed:<a href="http://www.uniprot.org/citations/14731398" target="\_blank">14731398</a>, PubMed:<a href="http://www.uniprot.org/citations/18279852" target="\_blank">18279852</a>). Involved in cytoplasmic urokinase-type plasminogen activator (uPA) mRNA decay (PubMed:<a href="http://www.uniprot.org/citations/14731398" target="\_blank">14731398</a>). 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**

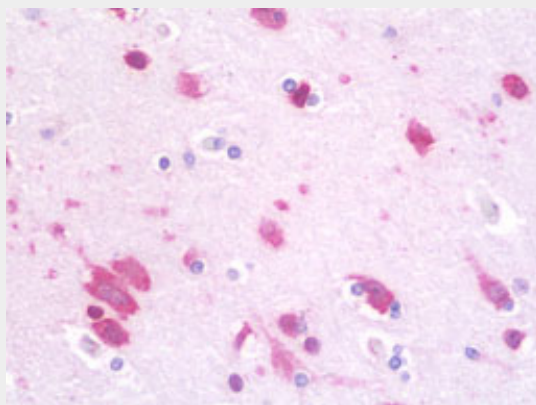
Highly expressed in testis.

#### **DHX36 Antibody (C-Terminus) - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **DHX36 Antibody (C-Terminus) - Images**



Anti-DHX36 antibody IHC staining of human brain, cortex.

#### **DHX36 Antibody (C-Terminus) - Background**

Proposed to have a global role in regulating mRNA expression including transcriptional regulation and mRNA stability. Binds with high affinity to and resolves tetramolecular RNA and DNA quadruplex structures. Unwinds intramolecular quadruplexes derived from the ZIC1 and the MYC promoters. Binds to quadruplex structures in the promoters of YY1 and ALPL genes and regulates their expression. Binds to telomerase RNA template component (TERC) 5'-end (nucleotides 1-43) and unwinds an internal quadruplex formation in TERC 5'-end to promote P1 helix formation; the P1

helix acts as a template boundary ensuring accurate reverse transcription and is disrupted by quadruplex formation. May be involved in regulation of telomere length. Plays a role in degradation and deadenylation of mRNAs containing in their 3'-UTR the consensus ARE sequence element. May function in sex development and spermatogenesis. May play a role in ossification.

#### **DHX36 Antibody (C-Terminus) - References**

Fu J.-J., et al. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 34:655-661(2002).  
Tran H., et al. Mol. Cell 13:101-111(2004).  
Ota T., et al. Nat. Genet. 36:40-45(2004).  
Muzny D.M., et al. Nature 440:1194-1198(2006).  
Mural R.J., et al. Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.