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DDX1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP9683a

Specification

DDX1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q92499

DDX1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 1653

Other Names
ATP-dependent RNA helicase DDX1, DEAD box protein 1, DEAD box protein retinoblastoma, DBP-RB, DDX1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DDX1 Antibody (N-term) Blocking Peptide - Protein Information

Name DDX1

Function
Acts as an ATP-dependent RNA helicase, able to unwind both RNA-RNA and RNA-DNA duplexes. Possesses 5' single-stranded RNA overhang nuclease activity. Possesses ATPase activity on various RNA, but not DNA polynucleotides. May play a role in RNA clearance at DNA double- strand breaks (DSBs), thereby facilitating the template-guided repair of transcriptionally active regions of the genome. Together with RELA, acts as a coactivator to enhance NF-kappa-B-mediated transcriptional activation. Acts as a positive transcriptional regulator of cyclin CCND2 expression. Binds to the cyclin CCND2 promoter region. Associates with chromatin at the NF-kappa-B promoter region via association with RELA. Binds to poly(A) RNA. May be involved in 3'-end cleavage and polyadenylation of pre-mRNAs. Component of the tRNA-splicing ligase complex required to facilitate the enzymatic turnover of catalytic subunit RTCB: together with archease (ZBTB8OS), acts by facilitating the guanylylation of RTCB, a key intermediate step in tRNA ligation (PubMed:24870230). 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. Specifically binds (via helicase ATP-binding domain) on both short and long poly(I:C) dsRNA (By similarity).

Cellular Location
Nucleus. Cytoplasm. Cytoplasmic granule. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q91VR5}. Mitochondrion {ECO:0000250|UniProtKB:Q91VR5}. Note=Localized with MBNL1, TIAL1 and YBX1 in stress granules upon stress. Localized with CSTF2 in cleavage bodies. Forms large aggregates called DDX1 bodies. Relocalized into multiple foci (IR-induced foci or IRIF) after IR treatment, a process that depends on the presence of chromosomal DNA and/or RNA-DNA duplexes. Relocalized at sites of DNA double-strand breaks (DSBs) in an ATM-dependent manner after IR treatment. Colocalized with RELA in the nucleus upon TNF-alpha induction. Enters into the nucleus in case of active transcription while it accumulates in cytosol when transcription level is low (PubMed:24608264). Colocalizes in the cytosol with DDX21, DHX36 and TICAM1. Colocalizes in the mitochondria with TICAM1 and poly(I:C) RNA ligand. The multi-helicase-TICAM1 complex may translocate to the mitochondria upon poly(I:C) stimulation (By similarity) {ECO:0000250|UniProtKB:Q91VR5, ECO:0000269|PubMed:24608264}

Tissue Location
Highest levels of transcription in 2 retinoblastoma cell lines and in tissues of neuroectodermal origin including the retina, brain, and spinal cord.

DDX1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

DDX1 Antibody (N-term) Blocking Peptide - Images

DDX1 Antibody (N-term) Blocking Peptide - Background

DDX1 box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), are putative RNA helicases. They are implicated in a number of cellular processes involving alteration of RNA secondary structure such as translation initiation, nuclear and mitochondrial splicing, and ribosome and spliceosome assembly. Based on their distribution patterns, some members of this family are believed to be involved in embryogenesis, spermatogenesis, and cellular growth and division. This gene encodes a DEAD box protein of unknown function.

DDX1 Antibody (N-term) Blocking Peptide - References

Medland, S.E., et al. Am. J. Hum. Genet. 85(5):750-755(2009)# Trynka, G., et al. Gut 58(8):1078-1083(2009)# Tanaka, K., et al. Oncogene 28(21):2142-2151(2009)# Maggi, L.B. Jr., et al. Mol. Cell. Biol. 28(23):7050-7065(2008)# Li, L., et al. Mol. Cell. Biol. 28(20):6413-6425(2008)# Rikova, K., et al. Cell 131(6):1190-1203(2007)# Golembowski, S., et al. Immunobiology 201(5):631-644(2000)