

Rabbit DDX3X Polyclonal Antibody | anti-DDX3X antibody

DDX3X Antibody

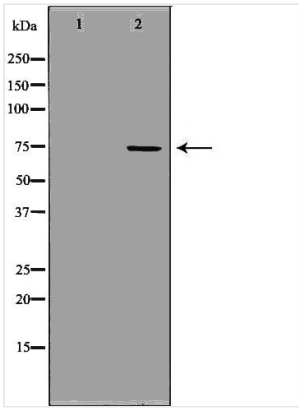
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA327128	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

DDX3X; Polyclonal Antibody; DDX3X Antibody; ATP dependent RNA helicase DDX3X; ATP-dependent RNA helicase DDX3X; CAP Rf; DBX; DDX14; DDX3X_HUMAN; DEAD (Asp Glu Ala Asp) box polypeptide 3 X linked; DEAD (Asp-Glu-Ala-Asp) box helicase 3; X-linked; DEAD box; DEAD box protein 3; DEAD box protein 3 X-chromosomal; DEAD box X isoform; X isoform; DEAD/H (Asp Glu Ala Asp/His) box polypeptide 3; DEAD/H box 3; Helicase like protein 2; Helicase-like protein 2; HLP2; X-chromosomal; anti-DDX3X antibody

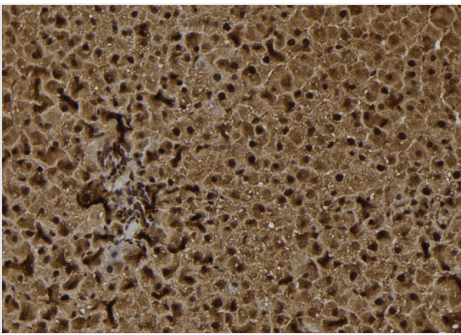
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	DDX3X antibody detects endogenous levels of total DDX3X
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	661
Applicable Applications for anti-DDX3X antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DDX3X
Subcellular Location	Nucleus Speckle. Cytoplasm. Located predominantly in nuclear speckles and, at low levels, throughout the cytoplasm. Located to the outer side of nuclear pore complexes (NPC). Shuttles between the nucleus and the cytoplasm in a XPO1-dependent manner.
Tissue Specificity	Regulated by the cell cycle. Maximally expressed in the cytoplasm during G1/S phase and decreased expression during G2/M phase.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of Hepg2 whole cell lysates, using DDX3X Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA327128 at 1/100 staining Rat liver tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-DDX3X antibody

Description: DEAD 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, which interacts specifically with hepatitis C virus core protein resulting a change in intracellular location. This gene has a homolog located in the nonrecombining region of the Y chromosome. The protein sequence is 91% identical between this gene and the Y-linked homolog. Alternative splicing results in multiple transcript variants.

Function: Multifunctional ATP-dependent RNA helicase. The ATPase activity can be stimulated by various ribo- and deoxynucleic acids indicative for a relaxed substrate specificity. In vitro can unwind partially double-stranded DNA with a preference for 5'-single-stranded DNA overhangs. Is involved in several steps of gene expression, such as transcription, mRNA maturation, mRNA export and translation. However, the exact mechanisms are not known and some functions may be specific for a subset of mRNAs. Involved in transcriptional regulation. Can enhance transcription from the CDKN1A/WAF1 promoter in a SP1-dependent manner. Found associated with the E-cadherin promoter and can down-regulate transcription from the promoter. Involved in regulation of translation initiation. Proposed to be involved in positive regulation of translation such as of cyclin E1/CCNE1 mRNA and specifically of mRNAs containing complex secondary structures in their 5'UTRs; these functions seem to require RNA helicase activity. Specifically promotes translation of a subset of viral and cellular mRNAs carrying a 5'proximal stem-loop structure in their 5'UTRs and cooperates with the eIF4F complex. Proposed to act prior to 43S ribosomal scanning and to locally destabilize these RNA structures to allow recognition of the mRNA cap or loading onto the 40S subunit. After association with 40S ribosomal subunits seems to be involved in the functional assembly of 80S ribosomes; the function seems to cover translation of mRNAs with structured and non-structured 5'UTRs and is independent of RNA helicase activity. Also proposed to inhibit cap-dependent translation by competitive interaction with EIF4E which can block the EIF4E:EIF4G complex formation. Proposed to be involved in stress response and stress granule assembly; the function is independent of RNA helicase activity and seems to involve association with EIF4E. May be involved in nuclear export of specific mRNAs but not in bulk mRNA export via interactions with XPO1 and NXF1. Also associates with polyadenylated mRNAs independently of NXF1. Associates with spliced mRNAs in an exon junction complex (EJC)-dependent manner and seems not to be directly involved in splicing. May be involved in nuclear mRNA export by association with DDX5 and regulating its nuclear location. Involved in innate immune signaling promoting the production of type I interferon (IFN-alpha and IFN-beta); proposed to act as viral RNA sensor, signaling intermediate and transcriptional coactivator. Involved in TBK1 and IKBKE-dependent IRF3 activation leading to IFNB induction, plays a role of scaffolding adapter that links IKBKE and IRF3 and coordinates their activation. Also found associated with IFNB promoters; the function is independent of IRF3. Can bind to viral RNAs and via association with MAVS/IPS1 and DDX58/RIG-I is thought to induce signaling in early stages of infection. Involved in regulation of apoptosis. May be required for activation of the intrinsic but inhibit activation of the extrinsic apoptotic pathway. Acts as an antiapoptotic protein through association with GSK3A/B and BIRC2 in an apoptosis antagonizing signaling complex; activation of death receptors promotes caspase-dependent cleavage of BIRC2 and DDX3X and relieves the inhibition. May be involved in mitotic chromosome segregation. Is an allosteric activator of CSNK1E, it stimulates CSNK1E-mediated phosphorylation of DVL2 and is involved in the positive regulation of canonical Wnt signaling (PubMed:23413191).

Subunit Structure: Binds RNA as a monomer at low DDX3X concentrations and as a dimer at high DDX3X concentrations (PubMed:27546789). Interacts with XPO1, TDRD3, PABPC1, NXF1, EIF3C, MAVS, DDX58 and NCAPH (PubMed:15507209, PubMed:18632687, PubMed:18596238, PubMed:20127681, PubMed:21170385, PubMed:21730191, PubMed:21883093, PubMed:22323517, PubMed:22872150). Interacts with DDX5; the interaction is regulated by the phosphorylation status of both proteins (PubMed:22034099). Interacts with EIF4E; DDX3X competes with EIF4G1/EIF4G3 for interaction with EIF4E (PubMed:17667941, PubMed:21883093). Interacts with IKBKE; the interaction is direct, found to be induced upon virus infection (PubMed:20375222, PubMed:20657822, PubMed:23478265). Interacts (when phosphorylated at Ser-102) with IRF3; the interaction allows the phosphorylation and activation of IRF3 by IKBKE (PubMed:23478265). Interacts with TBK1 (PubMed:20375222). Associates with the eukaryotic translation initiation factor 3 (eIF-3) complex (PubMed:18628297). Associates with the 40S ribosome (PubMed:22323517). Identified in a mRNP complex, at least composed of DHX9, DDX3X, ELAVL1, HNRNPU, IGF2BP1, ILF3, PABPC1, PCBP2, PTBP2, STAU1, STAU2, SYNCRIP and YBX1 (PubMed:19029303). Interacts with SP1 (PubMed:16818630). Interacts with GSK3A, GSK3B and TNFRSF10B (PubMed:18846110). Interacts with HCV core protein (PubMed:10329544). Interacts with vaccinia virus (VACV) protein K7 (PubMed:18636090, PubMed:19913487). Found in a complex with HIV-1 Rev and XPO1 (PubMed:15507209). Interacts with CSNK1E; the interaction enhances CSNK1E recruitment to DVL2 (PubMed:23413191). Interacts with DHX33; the interaction is independent of RNA (PubMed:26100019).

Post-translational Modifications: Phosphorylated by TBK1; the phosphorylation is required to synergize with TBK1 in IFNB induction. Phosphorylated by IKBKE at Ser-102 after ssRNA viral infection; enhances the induction of INFB promoter by IRF3. The cytoplasmic form is highly phosphorylated in the G1/S phase and much lower phosphorylated in G2/M.

Similarity: Belongs to the DEAD box helicase family. DDX3/DED1 subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	301171467
NCBI GeneID	1654
NCBI Accession #	NP_001180345.1
NCBI GenBank Nucleotide #	NM_001193416.2
UniProt Accession #	O00571; O15536; A8K538; B4E3E8
Molecular Weight	Observed: 73 kDa Predicted: 74 kDa
NCBI Official Full Name	ATP-dependent RNA helicase DDX3X isoform 2
NCBI Official Synonym Full Names	DEAD-box helicase 3 X-linked
NCBI Official Symbol	DDX3X
NCBI Official Synonym Symbols	DBX; DDX3; HLP2; DDX14; CAP-Rf; MRX102
NCBI Protein Information	ATP-dependent RNA helicase DDX3X
UniProt Protein Name	ATP-dependent RNA helicase DDX3X
UniProt Gene Name	DDX3X
UniProt Synonym Gene Names	DBX; DDX3; HLP2

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/ddx3x-antibody-immunohistochemistry-western-blot-elisa/327128>