

ATP-dependent RNA helicase DDX3X (DDX3X) Recombinant Protein | DDX3X recombinant protein

Recombinant Human ATP-dependent RNA helicase DDX3X (DDX3X)

CATALOG # AAA18608	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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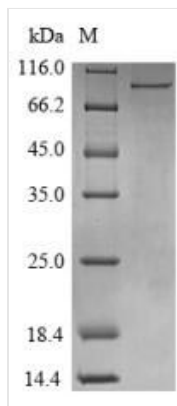
PRODUCT SYNONYMS

ATP-dependent RNA helicase DDX3X (DDX3X); Recombinant Human ATP-dependent RNA helicase DDX3X (DDX3X); ATP-dependent RNA helicase DDX3X; EC=3.6.4.13; DEAD box protein 3; X-chromosomal; DEAD box; X isoform; Helicase-like protein 2; HLP2; DDX3X recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	2-662aa; Full Length of Mature Protein
Sequence	SHVAVENALG LDQQFAGLDL NSSDNQSGGS TASKGRYIPP HLRNREATKG FYDKDSSGWS SSKDKDAYSS FGSRSDSRGK SSFFSDRGSG SRGRFDDRGR SDYDGIGSRG DRSGFGKFER GGNSRWCDKS DEDDWSKPLP PSERLEQELF SGGNTGINFE KYDDIPVEAT GNNCPPHIES FSDVEMGEII MGNIELTRYT RPTPVQKHAI PIIKEKRDLM ACAQTGSGKT AAFLLPILSQ IYSDGPGEAL RAMKENGRYG RRKQYIPISLV LAPTRELAVQ IYEEARKFSY RSRVRPCVVY GGADIGQQIR DLERGCHLLV ATPGRLVDMM ERGKIGLDFC KYLVLDEADR MLDMGFEPQI RRIVEQDTMP PKGVRHTMMF SATFPKEIQM LARDFLDEYI FLAVGRVGST SENITQKVWW VEESDKRSFL LDLLNATGKD SLTLVFVETK KGADSLEDFL YHEGYACTSI HGDRSQRDRE EALHQFRSGK SPILVATAVA ARGLDISNVK HVINFDLPSD IEEYVHRIGR TGRVGNLGLA TSFFNERNIN ITKDLLDLLV EAKQEVPSWL ENMAYEHYK GSSRGRSKSS RFSGGFGARD YRQSSGASSS SFSSSRASSS RSGGGGHGSS RGFGGGGYGG FYNSDGYGGN YNSQGVDDWWG N
Species	Homo sapiens (Human)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for DDX3X recombinant protein	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 IKKε-dependent IRF3 activation leading to IFNβ induction, plays a role of scaffolding adapter that links IKKε and IRF3 and coordinates their activation. Also found associated with IFNβ 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. Appears to be a prime target for viral manipulations. Hepatitis B virus (HBV) polymerase and possibly vaccinia virus (VACV) protein K7 inhibit IFNβ induction probably by dissociating DDX3X from TBK1 or IKKε. Is involved in hepatitis C virus (HCV) replication; the function may involve the association with HCV core protein. HCV core protein inhibits the IPS1-dependent function in viral RNA sensing and may switch the function from a INFB inducing to a HCV replication mode. Involved in HIV-1 replication. Acts as a cofactor for XPO1-mediated nuclear export of incompletely spliced HIV-1 Rev RNAs.
Product Categories/Family for DDX3X recombinant protein	Epigenetics and Nuclear Signaling
References	Nakao M, M Nogami, M Iwatani, T Imaeda et al. 2020. Identification of a selective DDX3X inhibitor with newly developed quantitative high-throughput RNA helicase assays. BBRC: 523 (3) 795-801. human DDX3X recombinant protein (host E. coli) was used to develop a helicase activity assay (Figs 3,4).

NCBI AND UNIPROT INFORMATION

NCBI GI #	301171475
NCBI GeneID	1654
NCBI Accession #	NP_001180346.1
NCBI GenBank Nucleotide #	NM_001193417.1
UniProt Accession #	O00571 ; O15536 ; A8K538 ; B4E3E8
Molecular Weight	77
NCBI Official Full Name	ATP-dependent RNA helicase DDX3X isoform 3
NCBI Official Synonym Full Names	DEAD (Asp-Glu-Ala-Asp) box helicase 3, X-linked
NCBI Official Symbol	DDX3X

NCBI Official Synonym Symbols	DBX; DDX3; HLP2; DDX14
NCBI Protein Information	ATP-dependent RNA helicase DDX3X; CAP-Rf; DEAD/H box-3; DEAD box, X isoform; helicase like protein 2; helicase-like protein 2; DEAD box protein 3, X-chromosomal; DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 3; DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked
UniProt Protein Name	ATP-dependent RNA helicase DDX3X
UniProt Gene Name	DDX3X
UniProt Synonym Gene Names	DBX; DDX3; HLP2
UniProt Entry Name	DDX3X_HUMAN

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://www.aaabiotech.com/ddx3x-recombinant-protein-e-coli/18608>