ARG54169
anti-DDX3 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes DDX3X
Tested Reactivity	Hu, Ms, Rat, Mk
Tested Application	ICC/IF, IP, WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a
Target Name	DDX3
Species	Human
Immunogen	Purified recombinant human DDX3 protein fragments expressed in E.coli.
Conjugation	Un-conjugated
Alternate Names	DDX14; DEAD box protein 3, X-chromosomal; CAP-Rf; Helicase-like protein 2; DEAD box, X isoform; DBX; HLP2; EC 3.6.4.13; DDX3; ATP-dependent RNA helicase DDX3X

Application Instructions

Application table

Application	Dilution
ICC/IF	1:200
IP	Assay-dependent
WB	1:1000 - 1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide, 0.1mg/ml BSA and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	0.1mg/ml BSA, 50% Glycerol
Concentration	1.5 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

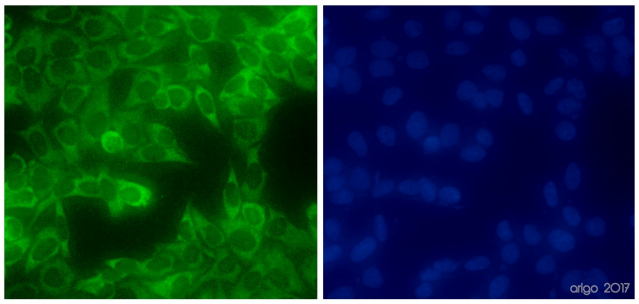
Database links	GeneID: 13205 Mouse GeneID: 1654 Human Swiss-port # O00571 Human Swiss-port # Q62167 Mouse
Gene Symbol	DDX3X
Gene Full Name	DEAD (Asp-Glu-Ala-Asp) box helicase 3, X-linked
Background	The protein encoded by this gene is a member of the large DEAD-box protein family, that is defined by the presence of the conserved Asp-Glu-Ala-Asp (DEAD) motif, and has ATP-dependent RNA helicase activity. This protein has been reported to display a high level of RNA-independent ATPase activity, and unlike most DEAD-box helicases, the ATPase activity is thought to be stimulated by both RNA and DNA. This protein has multiple conserved domains and is thought to play roles in both the nucleus and cytoplasm. Nuclear roles include transcriptional regulation, mRNP assembly, pre-mRNA splicing, and mRNA export. In the cytoplasm, this protein is thought to be involved in translation, cellular signaling, and viral replication. Misregulation of this gene has been implicated in tumorigenesis. This gene has a paralog located in the nonrecombining region of the Y chromosome. Pseudogenes sharing similarity to both this gene and the DDX3Y paralog are found on chromosome 4 and the X chromosome. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Oct 2014]
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. [UniProt]
Research Area	Developmental Biology antibody; Gene Regulation antibody
Calculated Mw	73 kDa
PTM	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.
Cellular Localization	Nucleus speckle. Cytoplasm. Mitochondrion outer membrane. Note: 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 and may be also in a NFX1-dependent manner. Associated with polyadenylated mRNAs in the cytoplasm and the nucleus. Predominantly located in nucleus during G0 phase and in the cytoplasm during G1/S phase.

Images

ARG54169 anti-DDX3 antibody WB image

Western blot: U2OS-WT and U2OS-2RK stained with ARG54169 anti-DDX3 antibody.

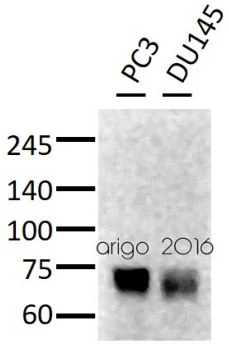
From Chen CC et al. Int J Mol Sci- (2021), doi: 10.3390/ijms22189764, Fig. 2. A.



ARG54169 anti-DDX3 antibody ICC/IF image

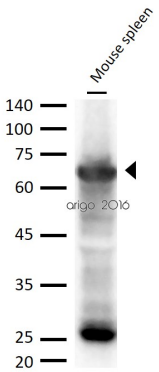
Immunofluorescence: 100% Methanol fixed (RT, 10 min) HeLa cells stained with ARG54169 anti-DDX3 antibody at 1:200 dilution. Left: primary antibody (green). Right: DAPI (blue).

Secondary antibody: ARG55393 Goat anti-Mouse IgG (H+L) antibody (FITC)



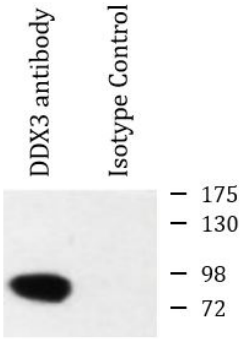
ARG54169 anti-DDX3 antibody WB image

Western blot: 30 µg of PC3 and DU145 cell lysates stained with ARG54169 anti-DDX3 antibody at 1:1000 dilution.



ARG54169 anti-DDX3 antibody WB image

Western blot: 30 µg of Mouse spleen lysate stained with ARG54169 anti-DDX3 antibody at 1:1000 dilution.



ARG54169 anti-DDX3 antibody IP image

Immunoprecipitation: HeLa cell lysates were immunoprecipitated and stained with ARG54169 anti-DDX3 antibody.