abcam

ab180190

Anti-DDX17 antibody [EPR13807(B)]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR13807(B)
Purification technique	Affinity purification Protein A
Concentration	0.097 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	Antigen retrieval is recommended. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/5000
Notes	Antigen retrieval is recommended. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/5000
Notes	Antigen retrieval is recommended. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information DDX17

Function

As an RNA helicase, unwinds RNA and alters RNA structures through ATP binding and hydrolysis. Involved in multiple cellular processes, including pre-mRNA splicing, alternative splicing, ribosomal RNA processing and miRNA processing, as well as transcription regulation. Regulates the alternative splicing of exons exhibiting specific features (PubMed:12138182, PubMed:22266867, PubMed:23022728, PubMed:24910439). For instance, promotes the inclusion of AC-rich alternative exons in CD44 transcripts (PubMed:12138182). This function requires the RNA helicase activity (PubMed:12138182, PubMed:22266867, PubMed:23022728, PubMed:24910439). Affects NFAT5 and histone macro-H2A.1/MACROH2A1 alternative splicing in a CDK9-dependent manner (PubMed:22266867, PubMed:26209609). In NFAT5, promotes the introduction of alternative exon 4, which contains 2 stop codons and may target NFAT5 exon 4-containing transcripts to nonsense-mediated mRNA decay, leading to the down-regulation of NFAT5 protein (PubMed:22266867). Affects splicing of mediators of steroid hormone signaling pathway, including kinases that phosphorylates ESR1, such as CDK2, MAPK1 and GSK3B, and transcriptional regulators, such as CREBBP, MED1, NCOR1 and NCOR2. By affecting GSK3B splicing, participates in ESR1 and AR stabilization (PubMed:24275493). In myoblasts and epithelial cells, cooperates with HNRNPH1 to control the splicing of specific subsets of exons (PubMed:24910439). In addition to binding mature mRNAs, also interacts with certain pri-microRNAs, including MIR663/miR-663a, MIR99B/miR-99b, and MIR6087/miR-6087 (PubMed:25126784). Binds pri-microRNAs on the 3' segment flanking the stem loop via the 5'-[ACG]CAUC[ACU]-3' consensus sequence (PubMed:24581491). Required for the production of subsets of microRNAs, including MIR21 and MIR125B1 (PubMed:24581491, PubMed:27478153). May be involved not only in microRNA primary transcript processing, but also stabilization (By similarity). Participates in MYC down-regulation at high cell density through the production of MYC-targeting microRNAs (PubMed:24581491). Along with DDX5, may be involved in the processing of the 32S intermediate into the mature 28S ribosomal RNA (PubMed:17485482). Promoter-specific transcription regulator, functioning as a coactivator or corepressor depending on the context of the promoter and the transcriptional complex in which it exists (PubMed:15298701). Enhances NFAT5 transcriptional activity (PubMed:22266867). Synergizes with TP53 in the activation of the MDM2 promoter; this activity requires acetylation on lysine residues (PubMed:17226766, PubMed:19995069, PubMed:20663877). May also coactivate MDM2 transcription through a TP53-independent pathway (PubMed:17226766). Coactivates MMP7 transcription (PubMed:17226766). Along with CTNNB1, coactivates MYC, JUN, FOSL1 and cyclin D1/CCND1 transcription (PubMed:17699760). Alone or in combination with DDX5 and/or SRA1 non-coding RNA, plays a critical role in promoting the assembly of proteins required for the formation of the transcription initiation complex and chromatin remodeling leading to coactivation of MYOD1-dependent transcription. This helicase-independent activity is required for skeletal muscle cells to properly differentiate into myotubes (PubMed:17011493, PubMed:24910439). During epithelial-to-mesenchymal transition, coregulates SMAD-dependent transcriptional activity, directly controlling key effectors of differentiation, including miRNAs which in turn directly repress its expression (PubMed:24910439). Plays a role in estrogen and testosterone signaling pathway at several levels. Mediates the use of alternative promoters in estrogen-responsive genes and regulates transcription and splicing of a large number of steroid hormone target genes (PubMed:19995069, PubMed:20406972, PubMed:20663877, PubMed:24275493). Contrary to splicing regulation activity, transcriptional coregulation of the estrogen receptor ESR1 is helicase-independent (PubMed:19718048, PubMed:24275493). Plays a role in innate immunity. Specifically restricts bunyavirus infection, including Rift Valley

fever virus (RVFV) or La Crosse virus (LACV), but not vesicular stomatitis virus (VSV), in an interferon- and DROSHA-independent manner (PubMed:25126784). Binds to RVFV RNA, likely via structured viral RNA elements (PubMed:25126784). Promotes mRNA degradation mediated by the antiviral zinc-finger protein ZC3HAV1, in an ATPase-dependent manner (PubMed:18334637).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	DDX17 also known as RNA helicase p72 is an enzyme that unwinds RNA molecules. It belongs to the DEAD-box protein family. Its mechanical action involves utilizing ATP to unwind RNA facilitating various RNA processing events. DDX17 weighs approximately 73 kDa making it a relatively large protein. The enzyme expresses in

	multiple tissues but shows substantial activity in HEK 293 cells a human embryonic kidney cell line.
Biological function summary	This enzyme plays a significant role in RNA metabolism. DDX17 is part of the spliceosome complex which is essential for splicing pre-mRNA into mature mRNA. Through its helicase activity DDX17 ensures the proper remodeling of RNA structures which is necessary for accurate splicing. The protein also contributes to the regulation of gene expression and has been observed to influence transcription factors.
Pathways	RNA processing and maturation are key biological functions of DDX17. The protein integrates into the mRNA splicing pathway where it orchestrates proper RNA folding and splice site selection. Furthermore DDX17 interacts with other DEAD-box proteins such as DDX5 to assist in chromatin remodeling and transcription regulation facilitating efficient gene expression.
Associated diseases and disorders	Abnormal DDX17 expression or mutation links to certain cancers including breast cancer and leukemia. The protein along with DDX5 affects tumor progression by regulating pathways involved in cell proliferation. These pathways and protein interactions highlight the importance of DDX17 in maintaining normal cell function and its potential as a therapeutic target in cancer treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

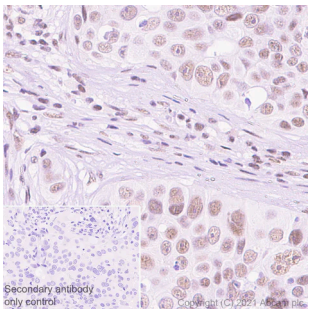
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

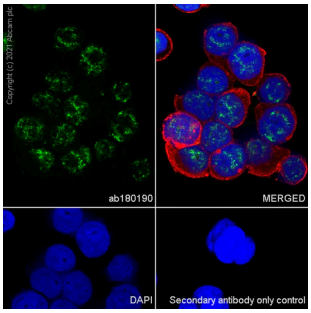
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-DDX17 antibody

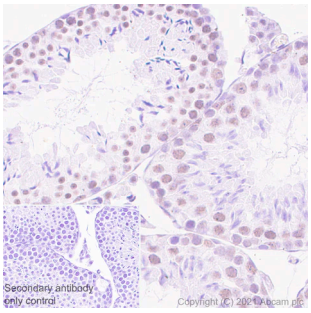
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue sections labeling DDX17 with Purified ab180190 at 1:5000 dilution (0.02 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-DDX17 antibody

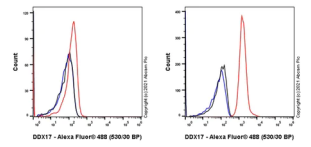
Immunocytochemistry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling DDX17 with Purified ab180190 at 1:50 dilution (2 µg/ml). Cells were fixed in 100% Methanol and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-DDX17 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissue sections labeling DDX17 with Purified ab180190 at 1:5000 dilution (0.02 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

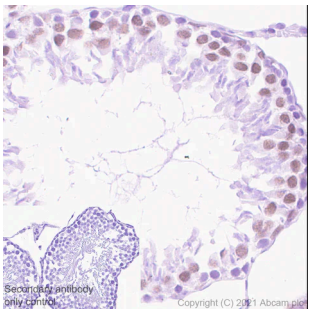


Flow Cytometry (Intracellular) - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Flow Cytometry (Intracellular) staining using rabbit Anti-DDX17 antibody

Flow Cytometry analysis of J774A.1 (Mouse reticulum cell sarcoma monocyte macrophage, Left) / NIH/3T3 (Mouse embryonic fibroblast, Right) cells labelling DDX17 with Purified ab180190 at 1:20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at

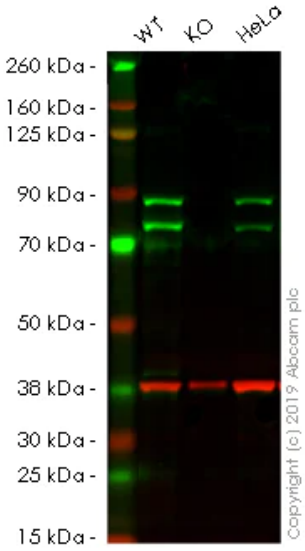
1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-DDX17 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat testis tissue sections labeling DDX17 with Purified ab180190 at 1:5000 dilution (0.02 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Western blot staining using rabbit Anti-DDX17 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab180190 observed at 72 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab180190 was shown to recognize DDX17 in wild-type HEK 293 cells as signal was lost at the expected MW in DDX17 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and DDX17 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab180190 and ab8245 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/5000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190) at 1/5000 dilution

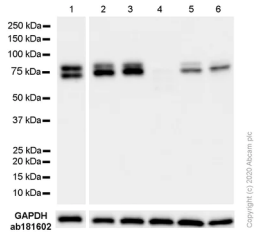
Lane 1:
Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Lane 2:
Western blot - Human DDX17 knockout HEK-293 cell lysate (ab261660) at 20 µg

Lane 3:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 72 kDa



Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

DDX17 Western blot staining using rabbit Anti-DDX17 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Exposure time: 6 s

All lanes:
Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190) at 1/1000 dilution

Lane 1:
HeLa (Human colorectal adenocarcinoma epithelial cell) cell lysate at 10 µg

Lane 2:
Mouse embryo lysate at 10 µg

Lane 3:
NIH/3T3 (Mouse embryonic fibroblast) cell lysate at 10 µg

Lane 4:
J774A.1 (Mouse reticulum cell sarcoma monocyte macrophage) cell lysate at 10 µg

Lane 5:
RAW264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) cell lysate at 10 µg

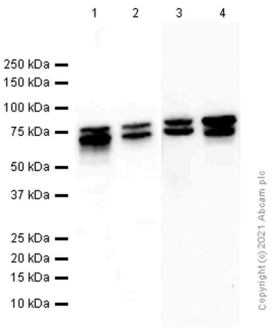
Lane 6:
C2C12 (Mouse myoblasts myoblast) cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

Observed band size: 72 kDa



Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190)

All lanes:
Western blot - Anti-DDX17 antibody [EPR13807(B)] (ab180190) at 1/1000 dilution

Lane 1:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
Rat brain lysate at 20 µg

Lane 4:
Rat testis lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.