10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

YBX1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6295B

Product Information

Application	WB, IF, E
Primary Accession	P67809
Other Accession	P62961, P62960, P67808, Q00436
Reactivity	Human, Rat, Mouse
Predicted	Xenopus, Bovine, Mouse, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14114
Calculated MW	35924
Antigen Region	276-305

Additional Information

Gene ID	4904
Other Names	Nuclease-sensitive element-binding protein 1, CCAAT-binding transcription factor I subunit A, CBF-A, DNA-binding protein B, DBPB, Enhancer factor I subunit A, EFI-A, Y-box transcription factor, Y-box-binding protein 1, YB-1, YBX1, NSEP1, YB1
Target/Specificity	This YBX1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 276-305 amino acids from the C-terminal region of human YBX1.
Dilution	WB~~1:1000 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	YBX1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	YBX1 (HGNC:8014)

Function	DNA- and RNA-binding protein involved in various processes, such as translational repression, RNA stabilization, mRNA splicing, DNA repair and transcription regulation (PubMed:10817758, PubMed:11698476, PubMed:14718551, PubMed:18809583, PubMed:31358969, PubMed:8188694). Predominantly acts as a RNA-binding protein: binds preferentially to the 5'-[CU]CUGCG-3' RNA motif and specifically recognizes mRNA transcripts modified by C5-methylcytosine (m5C) (PubMed:19561594, PubMed:31358969). Promotes mRNA stabilization: acts by binding to m5C-containing mRNAs and recruiting the mRNA stability maintainer ELAVL1, thereby preventing mRNA decay (PubMed:10817758, PubMed:11698476, PubMed:31358969). Component of the CRD-mediated complex that promotes MYC mRNA stability (PubMed:19029303). Contributes to the regulation of translation by modulating the interaction between the mRNA and eukaryotic initiation factors (By similarity). Plays a key role in RNA composition of extracellular exosomes by defining the sorting of small non-coding RNAs, such as tRNAs, Y RNAs, Vault RNAs and miRNAs (PubMed:27559612, PubMed:29073095). Probably sorts RNAs in exosomes by recognizing and binding C5-methylcytosine (m5C)-containing RNAs (PubMed:28341602, PubMed:29073095). Acts as a key effector of epidermal progenitors by preventing epidermal progenitor senescence: acts by regulating the translation of a senescence-associated subset of cytokine mRNAs, possibly by binding to m5C-containing mRNAs (PubMed:29712925). Also involved in pre-mRNA alternative splicing regulation: binds to splice sites in pre-mRNA and regulates splice site selection (PubMed:12604611). Binds to TSC22D1 transcripts, thereby inhibiting their translation and negatively regulating TGF-beta- mediated transcription of COL1A2 (By similarity). Also able to bind DNA: regulates transcription of the multidrug resistance gene MDR1 is enhanced in presence of the APEX1 acetylated form at 'Lys-6' and 'Lys- 7' (PubMed:18809583). Binds to promoters that contain a Y-box (5'-CTGATTGGCCAA-3'), such as MDR1 and HLA class II genes (PubMed:18809583, PubMed:8188694). Promotes separation of DNA strands that contain mismatches or are modified by cisplatin (PubMed:14718551). Has endonucleolytic activity and can introduce nicks or breaks into double-stranded DNA, suggesting a role in DNA repair (PubMed:14718551). The secreted form acts as an extracellular mitogen and stimulates cell migration and proliferation (PubMed:19483673).
Cellular Location	Cytoplasm. Nucleus. Cytoplasmic granule. Secreted. Secreted, extracellular exosome. Cytoplasm, P-body {ECO:0000250|UniProtKB:P62960}. Note=Predominantly cytoplasmic in proliferating cells (PubMed:12604611). Cytotoxic stress and DNA damage enhance translocation to the nucleus (PubMed:14718551) Localized in cytoplasmic mRNP granules containing untranslated mRNAs (PubMed:25229427). Shuttles between nucleus and cytoplasm (PubMed:25229427). Localized with DDX1, MBNL1 and TIAL1 in stress granules upon stress (PubMed:18335541). Secreted by mesangial and monocytic cells after inflammatory challenges (PubMed:19483673)

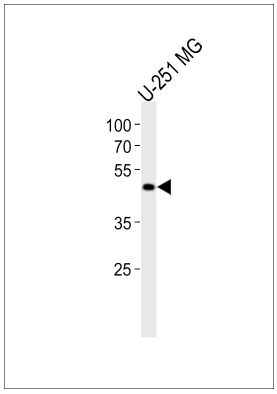
Background

YBX1 binds to splice sites in pre-mRNA and regulates splice site selection. This protein binds and stabilizes cytoplasmic mRNA and contributes to the regulation of translation by modulating the interaction between the mRNA and eukaryotic initiation factors. It binds to promoters that contain a Y-box (5'-CTGATTGGCCAA-3'), such as HLA class II genes. It regulates the transcription of numerous genes and promotes separation of DNA strands that contain mismatches or are modified by cisplatin. It has endonucleolytic activity and can introduce nicks or breaks into double-stranded DNA (in vitro), and it may play a role in DNA repair.

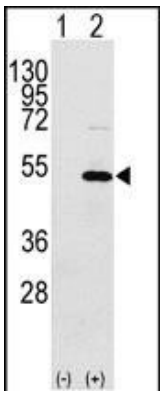
References

Fujii,T., Cancer Res. 68 (5), 1504-1512 (2008)
Fraser,D.J., Kidney Int. 73 (6), 724-732 (2008)
Shiota,M., Cancer Res. 68 (1), 98-105 (2008)

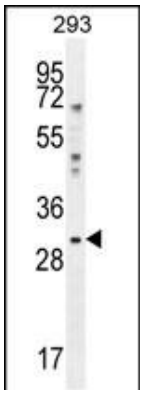
Images



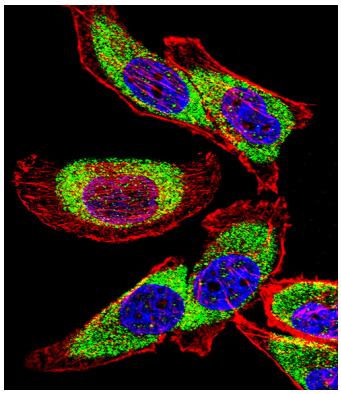
Western blot analysis of lysate from U-251 MG cell line, using YBX1 Antibody (C-term)(Cat. #AP6295b). AP6295b was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.



Western blot analysis of YBX1(arrow) using rabbit polyclonal YBX1 Antibody (C-term) (Cat. #AP6295b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the YBX1 gene (Lane 2) (Origene Technologies).



YBX1 Antibody (C-term) (Cat. #AP6295b) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the YBX1 antibody detected the YBX1 protein (arrow).



Fluorescent confocal image of U251 cell stained with YBX1 Antibody (C-term)(Cat#AP6295b).U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with YBX1 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). YBX1 immunoreactivity is localized to Cytoplasm significantly.

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