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YB1 (YBX1) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6295a

Product Information

Application	WB, E
Primary Accession	P67809
Other Accession	P21574, Q62764, Q9JKB3, P16989, Q9Z2C8, Q9Y2T7, P21573, P62961, Q28618, P62960, Q06066, P67808, Q00436
Reactivity	Human
Predicted	Xenopus, Bovine, Chicken, Mouse, Rabbit, Rat, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14116
Calculated MW	35924
Antigen Region	58-87

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 YB1 (YBX1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 58-87 amino acids from the N-terminal region of human YB1 (YBX1).
Dilution	WB~~1:1000 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	YB1 (YBX1) Antibody (N-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)

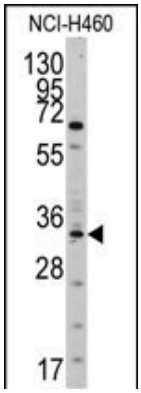
Background

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.

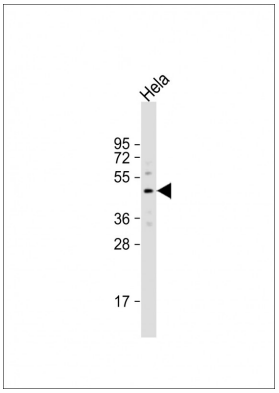
References

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)

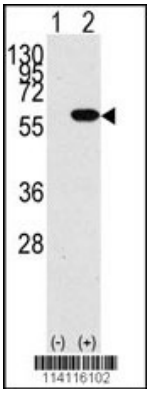
Images



Western blot analysis of anti-YBX1 Antibody (N-term) (Cat.#AP6295a) in NCI-H460 cell line lysates (35ug/lane).YBX1(arrow) was detected using the purified Pab.



Anti-YBX1 Antibody (N-term) at 1:1000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of YBX1 (arrow) using rabbit polyclonal YBX1 Antibody (N-term) (RB14116).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the YBX1 gene (Lane 2) (Origene Technologies).

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