

**Anti-YB1 YBX1 Rabbit Monoclonal Antibody**  
**Catalog # ABO13245****Specification****Anti-YB1 YBX1 Rabbit Monoclonal Antibody - Product Information**

|                   |                          |
|-------------------|--------------------------|
| Application       | WB, IHC, IF, ICC, IP, FC |
| Primary Accession | <a href="#">P67809</a>   |
| Host              | Rabbit                   |
| Isotype           | Rabbit IgG               |
| Reactivity        | Rat, Human, Mouse        |
| Clonality         | Monoclonal               |
| Format            | Liquid                   |

**Description**

Anti-YB1 YBX1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

**Anti-YB1 YBX1 Rabbit Monoclonal Antibody - Additional Information**

**Gene ID** 4904

**Other Names**

Y-box-binding protein 1, YB-1, CCAAT-binding transcription factor I subunit A, CBF-A, DNA-binding protein B, Nuclease-sensitive element-binding protein 1, Y-box transcription factor, YBX1 ([HGNC:8014](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=8014))

**Calculated MW**

35924 MW KDa

**Application Details**

WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>IP 1:50<br>FC 1:50

**Subcellular Localization**

Cytoplasm. Nucleus. Cytoplasmic granule. Secreted. Localized in cytoplasmic mRNP granules containing untranslated mRNAs. Shuttles between nucleus and cytoplasm. Predominantly cytoplasmic in proliferating cells. Cytotoxic stress and DNA damage enhance translocation to the nucleus. Localized with DDX1, MBNL1 and TIAL1 in stress granules upon stress. Secreted by mesangial and monocytic cells after inflammatory challenges. Translocates from the cytoplasm to the nucleus after and colocalizes with APEX1 in nuclear speckles after genotoxic stress.

**Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

**Immunogen**

A synthesized peptide derived from human YB1

**Purification**

Affinity-chromatography

**Storage**

**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

**Anti-YB1 YBX1 Rabbit Monoclonal Antibody - 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:<a href="http://www.uniprot.org/citations/10817758" target="\_blank">10817758</a>, PubMed:<a href="http://www.uniprot.org/citations/11698476" target="\_blank">11698476</a>, PubMed:<a href="http://www.uniprot.org/citations/14718551" target="\_blank">14718551</a>, PubMed:<a href="http://www.uniprot.org/citations/18809583" target="\_blank">18809583</a>, PubMed:<a href="http://www.uniprot.org/citations/31358969" target="\_blank">31358969</a>, PubMed:<a href="http://www.uniprot.org/citations/8188694" target="\_blank">8188694</a>). 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:<a href="http://www.uniprot.org/citations/19561594" target="\_blank">19561594</a>, PubMed:<a href="http://www.uniprot.org/citations/31358969" target="\_blank">31358969</a>). Promotes mRNA stabilization: acts by binding to m5C- containing mRNAs and recruiting the mRNA stability maintainer ELAVL1, thereby preventing mRNA decay (PubMed:<a href="http://www.uniprot.org/citations/10817758" target="\_blank">10817758</a>, PubMed:<a href="http://www.uniprot.org/citations/11698476" target="\_blank">11698476</a>, PubMed:<a href="http://www.uniprot.org/citations/31358969" target="\_blank">31358969</a>). Component of the CRD-mediated complex that promotes MYC mRNA stability (PubMed:<a href="http://www.uniprot.org/citations/19029303" target="\_blank">19029303</a>). 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:<a href="http://www.uniprot.org/citations/27559612" target="\_blank">27559612</a>, PubMed:<a href="http://www.uniprot.org/citations/29073095" target="\_blank">29073095</a>). Probably sorts RNAs in exosomes by recognizing and binding C5-methylcytosine (m5C)-containing RNAs (PubMed:<a href="http://www.uniprot.org/citations/28341602" target="\_blank">28341602</a>, PubMed:<a href="http://www.uniprot.org/citations/29073095" target="\_blank">29073095</a>). 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:<a href="http://www.uniprot.org/citations/29712925" target="\_blank">29712925</a>). Also involved in pre-mRNA alternative splicing regulation: binds to splice sites in pre-mRNA and regulates splice site selection (PubMed:<a href="http://www.uniprot.org/citations/12604611" target="\_blank">12604611</a>). 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:<a href="http://www.uniprot.org/citations/18809583" target="\_blank">18809583</a>). Binds to promoters that contain a Y-box (5'- CTGATTGGCCAA-3'), such as MDR1 and HLA class II genes (PubMed:<a href="http://www.uniprot.org/citations/18809583" target="\_blank">18809583</a>, PubMed:<a href="http://www.uniprot.org/citations/8188694" target="\_blank">8188694</a>). Promotes separation of DNA strands that contain mismatches or are modified by cisplatin (PubMed:<a href="http://www.uniprot.org/citations/14718551" target="\_blank">14718551</a>). Has endonucleolytic activity and can introduce nicks or breaks into double- stranded DNA, suggesting a role in DNA repair (PubMed:<a href="http://www.uniprot.org/citations/14718551" target="\_blank">14718551</a>). The secreted form acts as an extracellular mitogen and

stimulates cell migration and proliferation (PubMed:<a href="http://www.uniprot.org/citations/19483673" target="\_blank">19483673</a>).

#### Cellular Location

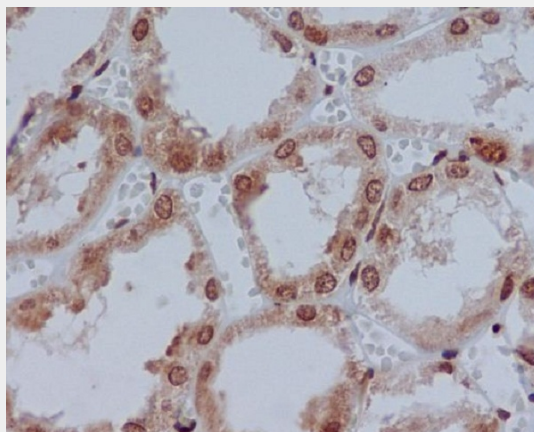
Cytoplasm. Nucleus. Cytoplasmic granule. Secreted. Secreted, extracellular exosome. Cytoplasm, P-body {ECO:0000250|UniProtKB:P62960}. Note=Predominantly cytoplasmic in proliferating cells (PubMed:12604611). Cytotoxic stress and DNA damage enhance translocation to the nucleus (PubMed:14718551) Localized 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)

#### Anti-YB1 YBX1 Rabbit Monoclonal Antibody - Protocols

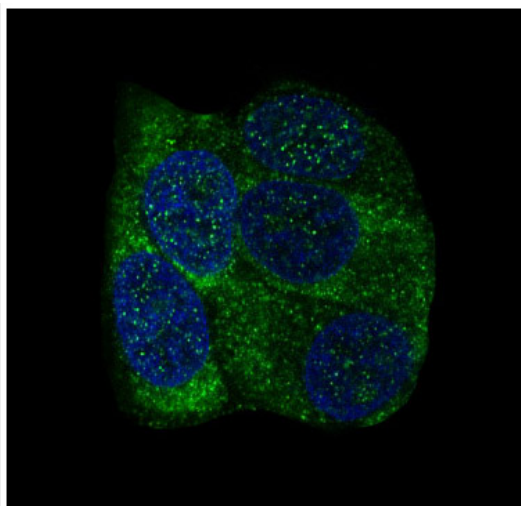
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-YB1 YBX1 Rabbit Monoclonal Antibody - Images



Immunohistochemical analysis of paraffin-embedded human kidney, using YB1 Antibody.



Immunofluorescent analysis of MCF-7 cells, using YB1 Antibody.

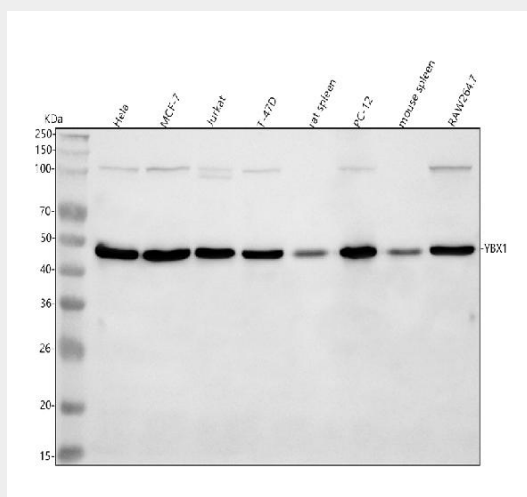


Figure 1. Western blot analysis of YB1 using anti-YB1 antibody (M01054).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

- Lane 1: human Hela whole cell lysates,
- Lane 2: human MCF-7 whole cell lysates,
- Lane 3: human Jurkat whole cell lysates,
- Lane 4: human T-47D whole cell lysates,
- Lane 5: rat spleen tissue lysates,
- Lane 6: rat PC-12 whole cell lysates,
- Lane 7: mouse spleen tissue lysates,
- Lane 8: mouse RAW264.7 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-YB1 antigen affinity purified monoclonal antibody (Catalog # M01054) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:1000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for YB1 at approximately 48 kDa. The expected band size for YB1 is at 36 kDa.