

# Anti-YBX1 / YB1 Antibody (clone 4F12)

Mouse Anti Human Monoclonal Antibody

Catalog # ALS17987

## Product Information

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|------------------------------|------------------------|
| <b>Application</b>           | WB, IHC-P, IF, E       |
| <b>Primary Accession</b>     | <a href="#">P67809</a> |
| <b>Predicted</b>             | Human                  |
| <b>Host</b>                  | Mouse                  |
| <b>Clonality</b>             | Monoclonal             |
| <b>Isotype</b>               | IgG2a,k                |
| <b>Clone Names</b>           | 4F12                   |
| <b>Calculated MW</b>         | 35924                  |
| <b>Concentration (mg/ml)</b> | 1 mg/ml                |

## Additional Information

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|-------------------------------------|--|
| <b>Gene ID</b>                      | 4904   |
| <b>Alias Symbol</b>                 | YBX1   |
| <b>Other Names</b>                  | YBX1, CBF-A, DBPB, CSDB, DNA-binding protein B, MDR-NF1, NSEP-1, NSEP1, Y box binding protein 1, Y-box transcription factor, Y-box-binding protein 1, YB-1, BP-8, CSDA2, EFI-A, Enhancer factor I subunit A, YB1 |
| <b>Target/Specificity</b>           | Human YBX1 / YB1   |
| <b>Reconstitution &amp; Storage</b> | Protein A purified   |
| <b>Precautions</b>                  | Anti-YBX1 / YB1 Antibody (clone 4F12) is for research use only and not for use in diagnostic or therapeutic procedures.  |

## Protein Information

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| <b>Name</b>     | YBX1 ( <a href="#">HGNC:8014</a> )  |
| <b>Function</b> | 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="#">10817758</a> , PubMed: <a href="#">11698476</a> , PubMed: <a href="#">14718551</a> , PubMed: <a href="#">18809583</a> , PubMed: <a href="#">31358969</a> , PubMed: <a href="#">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="#">19561594</a> , PubMed: <a href="#">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="#">10817758</a> , PubMed: <a href="#">11698476</a> , PubMed: <a href="#">31358969</a> ). 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)

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