SANTA CRUZ BIOTECHNOLOGY, INC.

YB-1 (E-7): sc-398146

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Y-Box binding protein YB-1 (also known as CCAAT-binding transcription factor, enhancer factor I subunit A and DNA-binding protein B) belongs to a family of multifunctional proteins, which regulate both transcription and translation. Y-box proteins interact with a wide variety of nucleic acid structures to act as transcription factors and mRNA masking proteins. The modular structure of Y-box proteins includes a highly conserved N-terminal cold-shock domain (CSD, equivalent to the bacterial cold-shock proteins) and four basic C-terminal domains containing arginine clusters and aromatic residues. YB-1 plays a role in cell proliferation as an activator of growth-associated gene expression. YB-1 is also a repressor of the cell death-associated gene FAS. YB-1 may play an important role in controlling cell survival by regulating the expression of cell growth-associated and death-associated genes.

REFERENCES

1. Okamoto, T., et al. 2000. Direct interaction of p53 with the Y-box binding protein, YB-1: a mechanism for regulation of human gene expression. Oncogene 19: 6194-6202.
2. Levenson, V.V., et al. 2000. Pleiotropic resistance to DNA-interactive drugs is associated with increased expression of genes involved in DNA replication, repair, and stress response. Cancer Res. 60: 5027-5030.
3. Wang, N., et al. 2000. Acquisition of double-stranded DNA-binding ability in a hybrid protein between *Escherichia coli* CspA and the cold shock domain of human YB-1. Mol. Microbiol. 38: 526-534.
4. Lasham, A., et al. 2000. Regulation of the human FAS promoter by YB-1, Purα and AP-1 transcription factors. Gene 252: 1-13.
5. Diamond, P., et al. 2001. Cold shock domain factors activate the granulocyte-macrophage colony-stimulating factor promoter in stimulated Jurkat T cells. J. Biol. Chem. 276: 7943-7951.
6. Chansky, H.A., et al. 2001. Oncogenic TLS/ERG and EWS/Fli-1 fusion proteins inhibit RNA splicing mediated by YB-1 protein. Cancer Res. 61: 3586-3590.

CHROMOSOMAL LOCATION

Genetic locus: YBX1 (human) mapping to 1p34.2; Ybx1 (mouse) mapping to 4 D2.1.

SOURCE

YB-1 (E-7) is a mouse monoclonal antibody raised against amino acids 196-240 mapping within an internal region of YB-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398146 X, 200 µg/0.1 ml.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

YB-1 (E-7) is recommended for detection of YB-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for YB-1 siRNA (h): sc-38634, YB-1 siRNA (m): sc-38635, YB-1 siRNA (r): sc-63323, YB-1 shRNA Plasmid (h): sc-38634-SH, YB-1 shRNA Plasmid (m): sc-38635-SH, YB-1 shRNA Plasmid (r): sc-63323-SH, YB-1 shRNA (h) Lentiviral Particles: sc-38634-V, YB-1 shRNA (m) Lentiviral Particles: sc-38635-V and YB-1 shRNA (r) Lentiviral Particles: sc-63323-V.

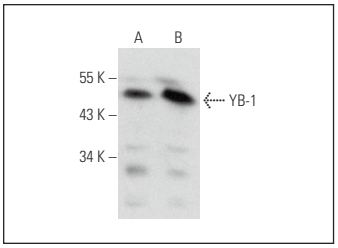
YB-1 (E-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of YB-1: 36 kDa.

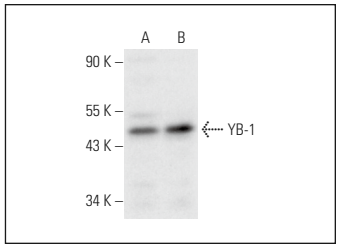
Molecular Weight (observed) of YB-1: 35-50 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or SW480 cell lysate: sc-2219.

DATA



YB-1 (E-7): sc-398146. Western blot analysis of YB-1 expression in HeLa (**A**) and Jurkat (**B**) whole cell lysates.



YB-1 (E-7): sc-398146. Western blot analysis of YB-1 expression in MCF7 (**A**) and SW480 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Xiao, Y.Z., et al. 2020. Reducing hypothalamic stem cell senescence protects against aging-associated physiological decline. Cell Metab. 31: 534-548.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.