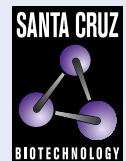


YB-1 (C-3): sc-398340



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

- 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.
- 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

YB-1 (C-3) 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_{2a} 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-398340 X, 200 µg/0.1 ml.

YB-1 (C-3) is available conjugated to agarose (sc-398340 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398340 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398340 PE), fluorescein (sc-398340 FITC), Alexa Fluor® 488 (sc-398340 AF488), Alexa Fluor® 546 (sc-398340 AF546), Alexa Fluor® 594 (sc-398340 AF594) or Alexa Fluor® 647 (sc-398340 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398340 AF680) or Alexa Fluor® 790 (sc-398340 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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 (C-3) 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), immunohistochemistry (including paraffin-embedded sections) (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.

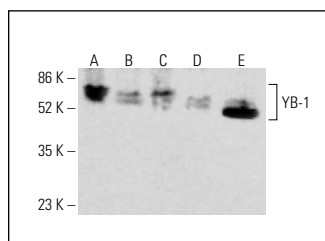
YB-1 (C-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

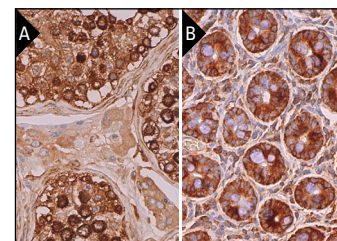
Molecular Weight (observed) of YB-1: 35-50 kDa.

Positive Controls: SW480 cell lysate: sc-2219, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



YB-1 (C-3) HRP: sc-398340 HRP. Direct western blot analysis of YB-1 expression in K-562 (A), Jurkat (B), SW480 (C), HeLa (D) and MCF7 (E) whole cell lysates.



YB-1 (C-3): sc-398340. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells and endothelial cells (B).

SELECT PRODUCT CITATIONS

- Jones, G.G., et al. 2019. SHOC2 phosphatase-dependent RAF dimerization mediates resistance to MEK inhibition in Ras-mutant cancers. *Nat. Commun.* 10: 2532.
- Li, S., et al. 2023. Aurora kinase A regulates cancer-associated RNA aberrant splicing in breast cancer. *Heliyon* 9: e17386.
- Tian, W., et al. 2024. Autophagy deficiency induced by SAT1 potentiates tumor progression in triple-negative breast cancer. *Adv. Sci.* 11: e2309903.

RESEARCH USE

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