SANTA CRUZ BIOTECHNOLOGY, INC.

FBP1 (G-8): sc-271241

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Activation of FUSE, the far upstream element, is required for the proper expression of the mammalian gene c-Myc in undifferentiated cells. The binding of FBP1 (FUSE-binding protein or far upstream element-binding protein) to FUSE is necessary for c-Myc expression, indicating that FBP1 functions as a growth-dependent regulator of c-Myc expression. Isolated from proliferating HL-60 cells, FBP1 (FBP), FBP2 and FBP3 comprise a family of single-stranded DNA-binding proteins that specifically bind to FUSE elements. The FBP transcription factors share a conserved central DNA-binding domain and show significant homology in their carboxyl-terminal activation domains. Expression of FBP1 is detected in undifferentiated cells and is substantially decreased following cellular differentiation.

REFERENCES

1. Avigan, M.I., et al. 1990. A far upstream element stimulates c-Myc expression in undifferentiated leukemia cells. J. Biol. Chem. 265: 18538-18545.
2. Duncan, R., et al. 1994. A sequence-specific, single-strand binding protein activates the far upstream element of c-Myc and defines a new DNA-binding motif. Genes Dev. 8: 465-480.
3. Bazar, L., et al. 1995. A transactivator of c-Myc is coordinately regulated with the proto-oncogene during cellular growth. Oncogene 10: 2229-2238.

CHROMOSOMAL LOCATION

Genetic locus: FUBP1 (human) mapping to 1p31.1; Fubp1 (mouse) mapping to 3 H3.

SOURCE

FBP1 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 605-641 near the C-terminus of FBP1 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-271241 X, 200 µg/0.1 ml.

FBP1 (G-8) is available conjugated to agarose (sc-271241 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271241 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271241 PE), fluorescein (sc-271241 FITC), Alexa Fluor® 488 (sc-271241 AF488), Alexa Fluor® 546 (sc-271241 AF546), Alexa Fluor® 594 (sc-271241 AF594) or Alexa Fluor® 647 (sc-271241 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271241 AF680) or Alexa Fluor® 790 (sc-271241 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271241 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

FBP1 (G-8) is recommended for detection of FBP1 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).

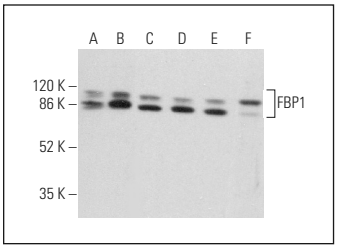
Suitable for use as control antibody for FBP1 siRNA (h): sc-43760, FBP1 siRNA (m): sc-44829, FBP1 shRNA Plasmid (h): sc-43760-SH, FBP1 shRNA Plasmid (m): sc-44829-SH, FBP1 shRNA (h) Lentiviral Particles: sc-43760-V and FBP1 shRNA (m) Lentiviral Particles: sc-44829-V.

FBP1 (G-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

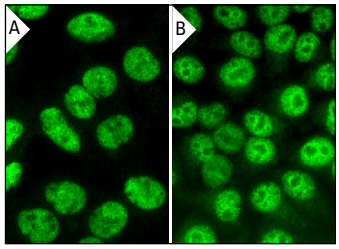
Molecular Weight of FBP1: 74 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or A-673 cell lysate: sc-2414.

DATA



FBP1 (G-8): sc-271241. Western blot analysis of FBP1 expression in Hep G2 (**A**), HeLa (**B**), HL-60 (**C**), A-673 (**D**), MCF7 (**E**) and NIH/3T3 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



FBP1 (G-8): sc-271241. Immunofluorescence staining of formalin-fixed Hep G2 (**A**) and HeLa (**B**) cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Huang, Y., et al. 2016. Expression of far upstream element binding protein 1 in B-cell non-Hodgkin lymphoma is correlated with tumor growth and cell-adhesion mediated drug resistance. Mol. Med. Rep. 14: 3759-3768.
2. Zhang, P., et al. 2021. FBP1 enhances the radiosensitivity by suppressing glycolysis via the FBXW7/mTOR axis in nasopharyngeal carcinoma cells. Life Sci. 283: 119840.
3. Tang, B., et al. 2022. Extracellular 5'-methylthioadenosine inhibits intracellular symmetric dimethylarginine protein methylation of FUSE-element binding proteins. J. Biol. Chem. 298: 102367.
4. Hou, Y., et al. 2023. METTL14 modulates glycolysis to inhibit colorectal tumorigenesis in p53-wild-type cells. EMBO Rep. E-published.

STORAGE

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