SANTA CRUZ BIOTECHNOLOGY, INC.

XBP-1 (F-4): sc-8015

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The Power to Question

BACKGROUND

The X-box binding protein-1 (XBP-1 or hXBP-1), also designated tax-responsive element-binding protein 5 (TREB5) in mouse and human, or hepatocarcinogenesis-related transcription factor (HTF) in rat, belongs to the basic region/leucine zipper (bZIP) family of transcription factors. XBP-1 was first characterized as a protein that binds to the HLA-DRα promoter in B cells. XBP-1 recognizes the cAMP responsive element (CRE) in enhancers of human T cell leukemia virus and major histocompatibility complex class II genes and activates transcription of these genes. It is expressed at high levels in developing bone and its levels are modulated during osteoblast development, suggesting a role in regulation of expression of osteoblast-specific genes. In addition to binding to CRE sequences, XBP-1 has been shown to bind to TPA response elements (TREs).

REFERENCES

1. Liou, H.C., et al. 1990. A new member of the leucine zipper class of proteins that binds to the HLA DRa proteins. Science 247: 1581-1584.
2. Liou, H.C., et al. 1991. An HLA-DRa promoter DNA-binding protein is expressed ubiquitously and maps to human chromosomes 22 and 5. Immunogenetics 34: 286-292.
3. Ono, S.J., et al. 1991. Human X-box-binding protein 1 is required for the transcription of a subset of human class II major histocompatibility genes and forms a heterodimer with c-fos. Proc. Natl. Acad. Sci. USA 88: 4309-4312.

CHROMOSOMAL LOCATION

Genetic locus: XBP1 (human) mapping to 22q12.1; Xbp1 (mouse) mapping to 11 A1.

SOURCE

XBP-1 (F-4) is a mouse monoclonal antibody raised against amino acids 76-263 mapping at the C-terminus of XBP-1 (X-box binding protein-1) of mouse 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-8015 X, 200 µg/0.1 ml.

XBP-1 (F-4) is available conjugated to agarose (sc-8015 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8015 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8015 PE), fluorescein (sc-8015 FITC), Alexa Fluor® 488 (sc-8015 AF488), Alexa Fluor® 546 (sc-8015 AF546), Alexa Fluor® 594 (sc-8015 AF594) or Alexa Fluor® 647 (sc-8015 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8015 AF680) or Alexa Fluor® 790 (sc-8015 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

XBP-1 (F-4) is recommended for detection of XBP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 XBP-1 siRNA (h): sc-38627, XBP-1 siRNA (m): sc-38628, XBP-1 shRNA Plasmid (h): sc-38627-SH, XBP-1 shRNA Plasmid (m): sc-38628-SH, XBP-1 shRNA (h) Lentiviral Particles: sc-38627-V and XBP-1 shRNA (m) Lentiviral Particles: sc-38628-V.

XBP-1 (F-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

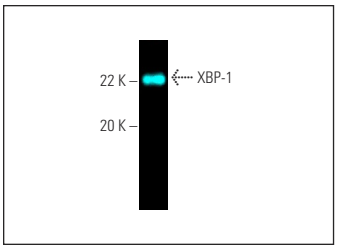
Molecular Weight (predicted) of XBP-1U isoform: 29 kDa.

Molecular Weight (observed) of XBP-1U isoform: 24-32 kDa.

Molecular Weight (predicted) of XBP-1S isoform: 40 kDa.

Molecular Weight (observed) of XBP-1S isoform: 54-56 kDa.

DATA



XBP-1 (F-4) Alexa Fluor® 647: sc-8015 AF647. Western blot analysis of mouse recombinant XBP-1 fusion protein.

SELECT PRODUCT CITATIONS

1. Tumang, J.R., et al. 2005. Spontaneously Ig-secreting B1 cells violate the accepted paradigm for expression of differentiation-associated transcription factors. J. Immunol. 174: 3173-3177.
2. Rubio-Patiño, C., et al. 2018. Low-protein diet induces IRE1α-dependent anticancer immunosurveillance. Cell Metab. 27: 828-842.
3. Wheeler, M.A., et al. 2019. Environmental control of astrocyte pathogenic activities in CNS inflammation. Cell 176: 581-596.
4. Barez, S.R., et al. 2020. Mechanism of inositol-requiring enzyme 1-α inhibition in endoplasmic reticulum stress and apoptosis in ovarian cancer cells. J. Cell Commun. Signal. 14: 403-415.

RESEARCH USE

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