SANTA CRUZ BIOTECHNOLOGY, INC.

XBP-1U (C-20): sc-32138

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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-DRα proteins. Science 247: 1581-1584.
2. Liou, H.C., et al. 1991. An HLA-DRα 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-1U (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of XBP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-32138 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-32138 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

APPLICATIONS

XBP-1U (C-20) is recommended for detection of XBP-1U 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).

XBP-1U (C-20) is also recommended for detection of XBP-1U in additional species, including equine and porcine.

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-1U (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of XBP-1U/XBP-1S isoforms: 29/40 kDa.

Molecular Weight (observed) of XBP-1U isoforms: 24-32/54-60 kDa.

Positive Controls: BJAB nuclear extract: sc-2145, Ramos nuclear extract: sc-2153 or U-87 MG cell lysate: sc-2411.

SELECT PRODUCT CITATIONS

1. Lehotský, J., et al. 2009. Molecular mechanisms leading to neuroprotection/ischemic tolerance: effect of preconditioning on the stress reaction of endoplasmic reticulum. Cell. Mol. Neurobiol. 29: 917-925.
2. Civelek, M., et al. 2009. Chronic endoplasmic reticulum stress activates unfolded protein response in arterial endothelium in regions of susceptibility to atherosclerosis. Circ. Res. 105: 453-461.
3. Urban, P., et al. 2009. Molecular analysis of endoplasmic reticulum stress response after global forebrain ischemia/reperfusion in rats: effect of neuroprotectant simvastatin. Cell. Mol. Neurobiol. 29: 181-192.
4. Gorbatyuk, M.S., et al. 2012. Glucose regulated protein 78 diminishes α-synuclein neurotoxicity in a rat model of Parkinson disease. Mol. Ther. 20: 1327-1337.
5. Nashine, S., et al. 2013. Ablation of C/EBP homologous protein does not protect T17M RHO mice from retinal degeneration. PLoS ONE 8: e63205.