

# XBP-1 (R-14): sc-32136

## 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-DR $\alpha$  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

- Liou, H.C., et al. 1990. A new member of the leucine zipper class of proteins that binds to the HLA-DR $\alpha$  proteins. *Science* 247: 1581-1584.
- Liou, H.C., et al. 1991. An HLA-DR $\alpha$  promoter DNA-binding protein is expressed ubiquitously and maps to human chromosomes 22 and 5. *Immunogenetics* 34: 286-292.
- 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 (R-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of XBP-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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-32136 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-32136 P, (100  $\mu$ g 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

XBP-1 (R-14) is recommended for detection of XBP-1U and XBP-1S isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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-1 (R-14) is also recommended for detection of XBP-1U and XBP-1S isoforms in additional species, including equine, canine, bovine 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-1 (R-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

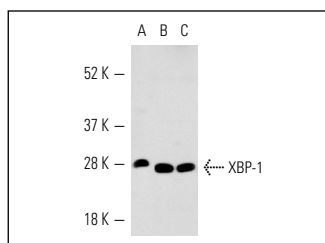
Molecular Weight (observed) of XBP-1U isoform: 24-32 kDa.

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

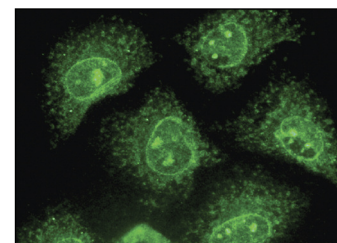
Molecular Weight (observed) of XBP-1S isoform: 54-56 kDa.

Positive Controls: U-87 MG whole cell lysate: sc-2411, MDA-MB-231 cell lysate: sc-2232 or SK-BR-3 cell lysate: sc-2218.

## DATA



XBP-1 (R-14): sc-32136. Western blot analysis of XBP-1 expression in U-87 MG (A) and MDA-MB-231 (B) whole cell lysates and SK-BR-3 nuclear extract (C).



XBP-1 (R-14): sc-32136. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar, nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Bischof, L.J., et al. 2008. Activation of the unfolded protein response is required for defenses against bacterial pore-forming toxin *in vivo*. *PLoS Pathog.* 4: e1000176.

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