

XBP-1 Antibody

XBP-1 (CT): X box binding protein 1, Tax-responsive element binding protein 5

CATALOG NO.: 3685

BACKGROUND:

X box binding protein 1 (XBP-1) is a key protein in the mammalian unfolded protein response (UPR) that protects the cell against the stress of misfolded proteins in the endoplasmic reticulum (ER) (1). Upon sensing unfolded proteins, an ER transmembrane endonuclease and kinase termed IRE1p is activated and excises an intron from XBP-1 mRNA. The spliced XBP-1 mRNA results in a 371 amino acid protein (XBP-1s) which is then translocated to the nucleus where it binds to the regulatory elements of downstream genes. Together with other UPR transcription factors such as ATF6, XBP-1 stimulates the production of ER stress proteins including the ER resident protein chaperones glucose regulated protein (GRP) 78 and GRP94 (3,4).

SOURCE:

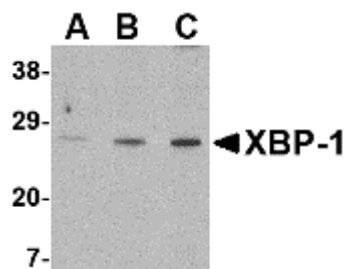
Rabbit polyclonal XBP-1 antibody was raised against a 17 amino acid peptide from near the carboxy terminus of human XBP-1 (Genbank accession No. P17861).

APPLICATION:

XBP-1 antibody can be used for the detection of XBP-1 by Western blot at 0.5 – 1 µg/ml. (Optimal dilution should be determined by user.) PC-3 cell lysate can be used as positive control. XBP-1 antibody will recognize only the non-spliced isoform of XBP-1. XBP-1 antibody is human, mouse and rat reactive. **This product is for research use only.**

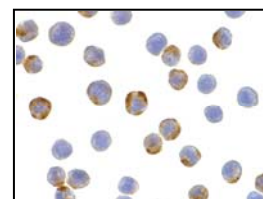
STORAGE:

XBP-1 antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



Western blot analysis of XBP-1 in PC-3 cell lysate with XBP-1 antibody at (A) 0.5, (B) 1 and (C) 2 µg/ml.

Immunocytochemistry of XBP-1 in HepG2 cells with XBP-1 antibody at 2 µg/ml.



RELATED PRODUCTS:

Blocking peptide, Catalog No. **3685P**.
PC-3 Cell Lysate, Catalog No. **1216**.
XBP-1 Antibody (NT), Catalog No. **3687**.
IRE1p Antibody (CT), Catalog No. **3655**.
ATF6 Antibody (CT), Catalog No. **3681**.

REFERENCES:

1. Yoshida H, Matsui T, Yamamoto T, et al. XBP1 mRNA is induced by ATF6 and spliced by IRE1p in response to ER stress to produce a highly active transcription factor. *Cell* 2001; 107:881-91.
2. Calton M, Zeng H, Urano F, et al. IRE1 couples endoplasmic reticulum load to secretory capacity by processing the XBP-1 mRNA. *Nature* 2002; 415:92-6.
3. Haze K, Yoshida H, Yanagi H, et al. Mammalian transcription factor ATF6 is synthesized as a transmembrane protein and activated by proteolysis in response to endoplasmic stress. *Mol. Cell. Biol.* 1999; 10:3787-99.
4. Little E, Ramakrishnan M, Roy B, et al. The glucose-regulated proteins (GRP78 and GRP94): functions, gene regulation, and

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