

**Goat Anti-XBP1 / TREB5 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF2164a****Specification**

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**Goat Anti-XBP1 / TREB5 Antibody - Product Information**

Application	WB, E
Primary Accession	<a href="#">P17861</a>
Other Accession	<a href="#">NP_001073007</a> , <a href="#">7494</a> , <a href="#">22433 (mouse)</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	28695

**Goat Anti-XBP1 / TREB5 Antibody - Additional Information****Gene ID** 7494**Other Names**

X-box-binding protein 1 {ECO:0000303|PubMed:2321018, ECO:0000312|HGNC:HGNC:12801}, XBP-1, Tax-responsive element-binding protein 5, TREB-5, X-box-binding protein 1, cytoplasmic form, X-box-binding protein 1, luminal form, XBP1 (<a href="http://www.genenames.org/cgi-bin/gene\_symbol\_report?hgnc\_id=12801" target="\_blank">HGNC:12801</a>)

**Dilution**

WB~~1:1000  
E~~N/A

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-XBP1 / TREB5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-XBP1 / TREB5 Antibody - Protein Information****Name** XBP1 ([HGNC:12801](#))

### Function

Functions as a transcription factor during endoplasmic reticulum (ER) stress by regulating the unfolded protein response (UPR). Required for cardiac myogenesis and hepatogenesis during embryonic development, and the development of secretory tissues such as exocrine pancreas and salivary gland (By similarity). Involved in terminal differentiation of B lymphocytes to plasma cells and production of immunoglobulins (PubMed:<a href="http://www.uniprot.org/citations/11460154" target="\_blank">11460154</a>). Modulates the cellular response to ER stress in a PIK3R-dependent manner (PubMed:<a href="http://www.uniprot.org/citations/20348923" target="\_blank">20348923</a>). Binds to the cis-acting X box present in the promoter regions of major histocompatibility complex class II genes (PubMed:<a href="http://www.uniprot.org/citations/8349596" target="\_blank">8349596</a>). Involved in VEGF-induced endothelial cell (EC) proliferation and retinal blood vessel formation during embryonic development but also for angiogenesis in adult tissues under ischemic conditions. Also functions as a major regulator of the UPR in obesity-induced insulin resistance and type 2 diabetes for the management of obesity and diabetes prevention (By similarity).

### Cellular Location

Endoplasmic reticulum. Note=Colocalizes with ERN1 and KDR in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (PubMed:23529610) [Isoform 2]: Nucleus. Cytoplasm {ECO:0000250|UniProtKB:O35426}. Note=Localizes predominantly in the nucleus. Colocalizes in the nucleus with SIRT1. Translocates into the nucleus in a PIK3R-, ER stress-induced- and/or insulin-dependent manner (By similarity). {ECO:0000250|UniProtKB:O35426}

### Tissue Location

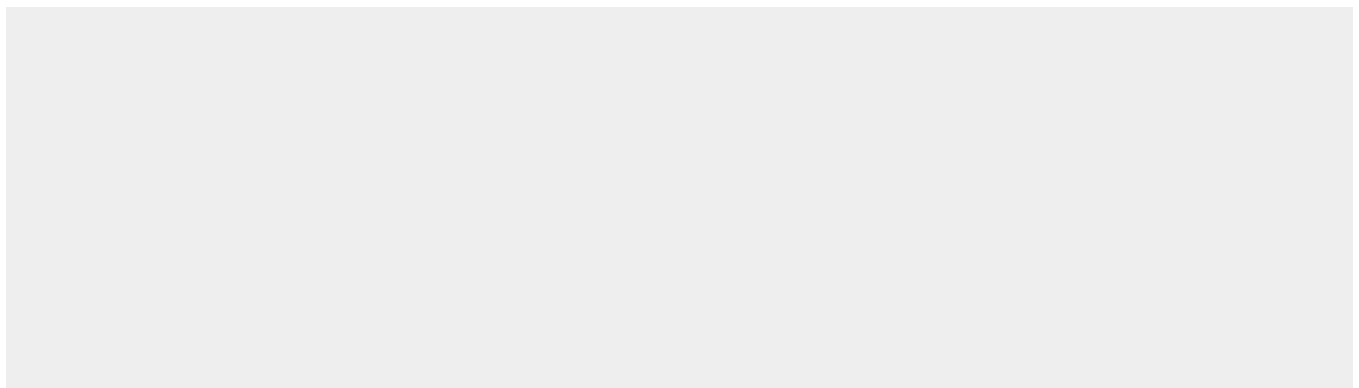
Expressed in plasma cells in rheumatoid synovium (PubMed:11460154). Over-expressed in primary breast cancer and metastatic breast cancer cells (PubMed:25280941). Isoform 1 and isoform 2 are expressed at higher level in proliferating as compared to confluent quiescent endothelial cells (PubMed:19416856)

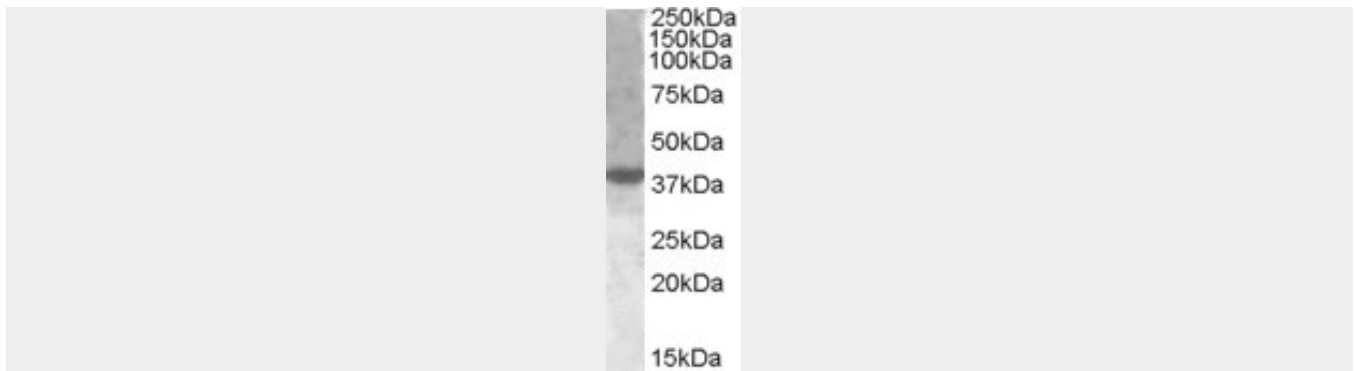
## Goat Anti-XBP1 / TREB5 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## Goat Anti-XBP1 / TREB5 Antibody - Images





AF2164a (1 µg/ml) staining of nuclear HeLa lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

#### **Goat Anti-XBP1 / TREB5 Antibody - Background**

This gene encodes a transcription factor that regulates MHC class II genes by binding to a promoter element referred to as an X box. This gene product is a bZIP protein, which was also identified as a cellular transcription factor that binds to an enhancer in the promoter of the T cell leukemia virus type 1 promoter. It may increase expression of viral proteins by acting as the DNA binding partner of a viral transactivator. It has been found that upon accumulation of unfolded proteins in the endoplasmic reticulum (ER), the mRNA of this gene is processed to an active form by an unconventional splicing mechanism that is mediated by the endonuclease inositol-requiring enzyme 1 (IRE1). The resulting loss of 26 nt from the spliced mRNA causes a frame-shift and an isoform XBP1(S), which is the functionally active transcription factor. The isoform encoded by the unspliced mRNA, XBP1(U), is constitutively expressed, and thought to function as a negative feedback regulator of XBP1(S), which shuts off transcription of target genes during the recovery phase of ER stress. A pseudogene of XBP1 has been identified and localized to chromosome 5.

#### **Goat Anti-XBP1 / TREB5 Antibody - References**

XBP1s levels are implicated in the biology and outcome of myeloma mediating different clinical outcomes to thalidomide-based treatments. Bagratuni T, et al. *Blood*, 2010 Jul 15. PMID 20421453.  
Induction of the unfolded protein response and cell death pathway in Alzheimer's disease, but not in aged Tg2576 mice. Lee JH, et al. *Exp Mol Med*, 2010 May 31. PMID 20368688.  
Evaluation of a combinatorial cell engineering approach to overcome apoptotic effects in XBP-1(s) expressing cells. Becker E, et al. *J Biotechnol*, 2010 Apr 15. PMID 19958799.  
Direct proteasome binding and subsequent degradation of unspliced XBP-1 prevent its intracellular aggregation. Navon A, et al. *FEBS Lett*, 2010 Jan 4. PMID 19941857.  
From sugar to fat: How the transcription factor XBP1 regulates hepatic lipogenesis. Glimcher LH, et al. *Ann N Y Acad Sci*, 2009 Sep. PMID 19751410.