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

Specification

Goat Anti-XBP1 / TREB5 Antibody - Product Information

Application	**WB**
Primary Accession	P17861
Other Accession	NP_001073007, 7494, 22433 (mouse)
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 (HGNC:12801)

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:11460154). Modulates the cellular response to ER stress in a PIK3R-dependent manner (PubMed:20348923). Binds to the cis-acting X box present in the promoter regions of major histocompatibility complex class II genes (PubMed:8349596). 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. Functions also 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 Cytomety
- 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.