

**Anti-XBP1 Picoband Antibody**  
Catalog # ABO12152**Specification****Anti-XBP1 Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P17861</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for X-box-binding protein 1(XBP1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-XBP1 Picoband 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](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=12801))

**Calculated MW**

28695 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat  
Western blot, 0.1-0.5 µg/ml, Human

**Subcellular Localization**

Endoplasmic reticulum . Colocalizes with ERN1 and KDR in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (PubMed:23529610).

**Tissue Specificity**

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).

**Protein Name**

X-box-binding protein 1

### Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>N.

### Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human XBP1 (59-85 aa RKRQRLTHLSPEEKALRRKLNKRVAAQ), identical to the related mouse and rat sequences.

### Purification

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

### Sequence Similarities

Belongs to the bZIP family.

## Anti-XBP1 Picoband 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](http://www.uniprot.org/citations/11460154)). Modulates the cellular response to ER stress in a PIK3R-dependent manner (PubMed: [20348923](http://www.uniprot.org/citations/20348923)). Binds to the cis-acting X box present in the promoter regions of major histocompatibility complex class II genes (PubMed: [8349596](http://www.uniprot.org/citations/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

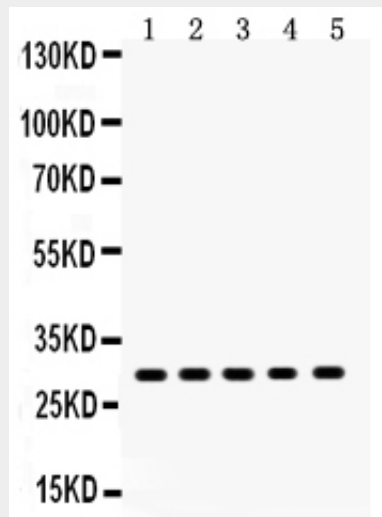
Expressed in plasma cells in rheumatoid synovium (PubMed:11460154). Over-expressed in primary breast cancer and metastatic breast cancer cells (PubMed:25280941). Isoform 1 and isoform 2 are expressed at higher level in proliferating as compared to confluent quiescent endothelial cells (PubMed:19416856)

## Anti-XBP1 Picoband Antibody - Protocols

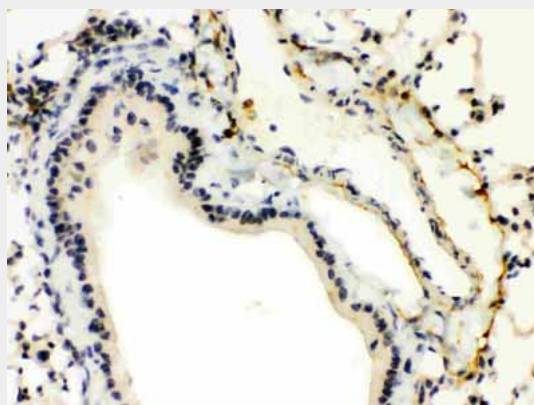
Provided below are standard protocols that you may find useful for product applications.

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

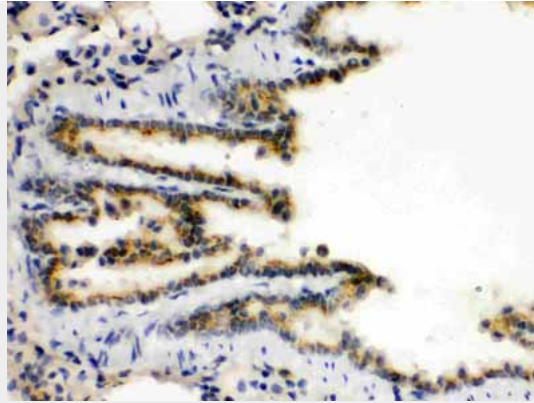
## Anti-XBP1 Picoband Antibody - Images



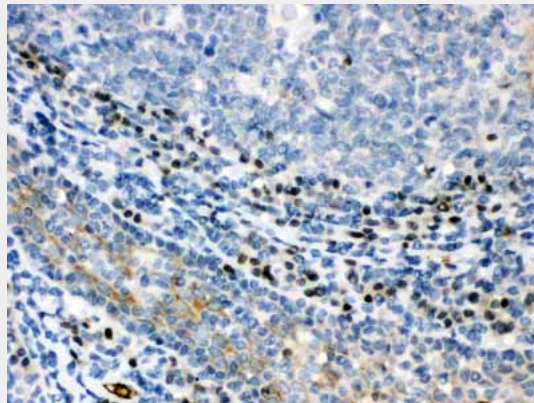
Anti- XBP Picoband antibody, ABO12152, Western blotting All lanes: Anti XBP1 (ABO12152) at 0.5ug/ml  
Lane 1: MCF-7 Whole Cell Lysate at 40ug  
Lane 2: MM231 Whole Cell Lysate at 40ug  
Lane 3: MM453 Whole Cell Lysate at 40ug  
Lane 4: SKOV Whole Cell Lysate at 40ug  
Lane 5: HELA Whole Cell Lysate at 40ug  
Predicted bind size: 29KD  
Observed bind size: 29KD



Anti- XBP Picoband antibody, ABO12152, IHC(P)  
IHC(P): Mouse Lung Tissue



Anti- XBP Picoband antibody, ABO12152, IHC(P)IHC(P): Rat Lung Tissue



Anti- XBP Picoband antibody, ABO12152, IHC(P)IHC(P): Human Tonsil Tissue

#### **Anti-XBP1 Picoband Antibody - Background**

XBP1, also known as X-box binding protein 1, is a protein which in humans is encoded by the XBP1 gene. It 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.