

Rabbit ATF4 Polyclonal Antibody | anti-ATF4 antibody

Anti-ATF4 Antibody Picoband

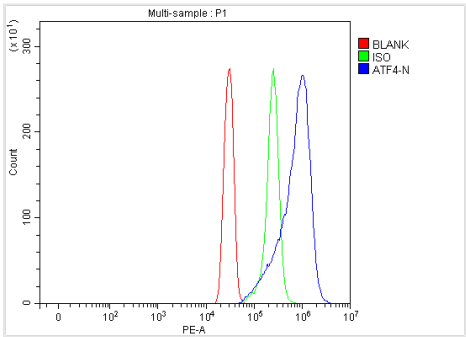
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA126984	Rabbit	Human, Mouse, Rat	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

ATF4; Polyclonal Antibody; Anti-ATF4 Antibody Picoband; Cyclic AMP-dependent transcription factor ATF-4; activating transcription factor 4 (tax-responsive enhancer element B67); cAMP-dependent transcription factor ATF-4; Activating transcription factor 4; Cyclic AMP-responsive element-binding protein 2; CREB-2; cAMP-responsive element-binding protein 2; DNA-binding protein TAXREB67; Tax-responsive enhancer element-binding protein 67; TaxREB67; CREB2; TXREB; anti-ATF4 antibody

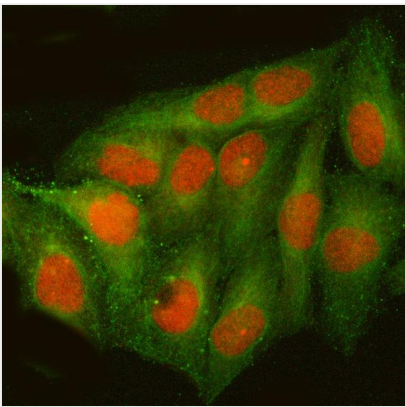
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Expressed in the liver, retina, bone cells and airway epithelial cells of the lung. NotExpressed in the platelets.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Applicable Applications for anti-ATF4 antibody	ELISA, FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)
Immunogen	E coli-derived human ATF4 recombinant protein (Position: E10-E210).
Subcellular Localization	Cytoplasm
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.
Protein Function	Transcriptional activator. Binds the cAMP response element (CRE)(consensus: 5'-GTGACGT[AC][AG]-3'), a sequence present in many viral and cellular promoters. Cooperates with FOXO1 in osteoblasts to regulate glucose homeostasis through suppression of beta-cell production and decrease in insulin production (By similarity). It binds to a Tax-responsive enhancer element in the long terminal repeat of HTLV-I. Regulates the induction of DDIT3/CHOP and asparagine synthetase (ASNS) in response to endoplasmic reticulum (ER) stress. In concert with DDIT3/CHOP, activates the transcription of TRIB3 and promotes ER stress-induced neuronal apoptosis by regulating the transcriptional induction of BBC3/PUMA. Activates transcription of SIRT4. Regulates the circadian expression of the core clock component PER2 and the serotonin transporter SLC6A4. Binds in a circadian time-dependent manner to the cAMP response elements (CRE) in the SLC6A4 and PER2 promoters and periodically activates the transcription of these genes. During ER stress response, activates the transcription of NLRP1, possibly in concert with other factors (PubMed:26086088).
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.



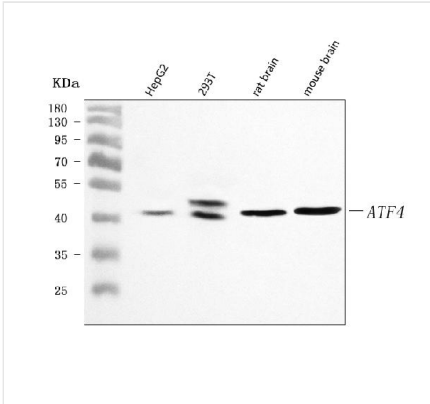
FCM/FACS (Flow Cytometry)

Figure 3. Flow Cytometry analysis of SiHa cells using anti-ATF4 antibody (AAA126984).Overlay histogram showing SiHa cells stained with AAA126984 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ATF4 Antibody (AAA126984, 1ug/1x10⁶ cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IF (Immunofluorescence)

Figure 2. IF analysis of ATF4 using anti-ATF4 antibody (AAA126984) and anti-Tubulin Alpha antibody (M03989-3).ATF4 was detected in immunocytochemical section of Hela cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-ATF4 Antibody (AAA126984) and mouse anti-Tubulin Alpha antibody (M03989-3) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) and DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



WB (Western Blot)

Figure 1. Western blot analysis of ATF4 using anti-ATF4 antibody (AAA126984).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human HepG2 whole cell lysates,Lane 2: human 293T whole cell lysates,Lane 3: rat brain tissue lysates,Lane 4: mouse brain tissue lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ATF4 antigen affinity purified polyclonal antibody (#AAA126984) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for ATF4 at approximately 45-50 kDa. The expected band size for ATF4 is at 38,39,45-50 kDa.

ADDITIONAL INFORMATION

Related Product Information for anti-ATF4 antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product Categories/Family for anti-ATF4 antibody	Primary Antibodies; Domain Families; Epigenetics and Nuclear Signaling; Hlh/Leucine Zipper; Transcription

References	1. De Angelis, R., Iezzi, S., Bruno, T., Corbi, N., Di Padova, M., Floridi, A., Fanciulli, M., Passananti, C. Functional interaction of the subunit 3 of RNA polymerase II (RPB3) with transcription factor-4 (ATF4). <i>FEBS Lett.</i> 547: 15-19, 2003. 2. Hai, T., Liu, F., Coukos, W. J., Green, M. R. Transcription factor ATF cDNA clones: an extensive family of leucine zipper proteins able to selectively form DNA-binding heterodimers. <i>Genes Dev.</i> 3: 2083-2090, 1989. 3. Karpinski, B. A., Morle, G. D., Huggenvik, J., Uhler, M. D., Leiden, J. M. Molecular cloning of human CREB-2: an ATF/CREB transcription factor that can negatively regulate transcription from the cAMP response element. <i>Proc. Nat. Acad. Sci.</i> 89: 4820-4824, 1992.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	33469976
NCBI GeneID	468
NCBI Accession #	NP_001666.2
NCBI GenBank Nucleotide #	NM_001675.2
UniProt Accession #	P18848; Q9UH31
Molecular Weight	40 kDa
NCBI Official Full Name	cyclic AMP-dependent transcription factor ATF-4
NCBI Official Synonym Full Names	activating transcription factor 4
NCBI Official Symbol	ATF4
NCBI Official Synonym Symbols	CREB2; TXREB; CREB-2; TAXREB67
NCBI Protein Information	cyclic AMP-dependent transcription factor ATF-4; DNA-binding protein TAXREB67; tax-responsive enhancer element B67; cAMP response element-binding protein 2; cAMP-dependent transcription factor ATF-4; cAMP-responsive element-binding protein 2; cyclic AMP-r
UniProt Protein Name	Cyclic AMP-dependent transcription factor ATF-4
UniProt Gene Name	ATF4
UniProt Synonym Gene Names	CREB2; TXREB; cAMP-dependent transcription factor ATF-4; CREB-2; cAMP-responsive element-binding protein 2; TaxREB67
UniProt Entry Name	ATF4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.