

**Anti-TAK1 Picoband Antibody**  
Catalog # ABO11624

**Specification**

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**Anti-TAK1 Picoband Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">O43318</a>
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Mitogen-activated protein kinase kinase kinase 7(MAP3K7) detection. Tested with WB in Human;Rat.

**Reconstitution**

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

**Anti-TAK1 Picoband Antibody - Additional Information**

**Gene ID** 6885

**Other Names**

Mitogen-activated protein kinase kinase kinase 7, 2.7.11.25, Transforming growth factor-beta-activated kinase 1, TGF-beta-activated kinase 1, MAP3K7, TAK1

**Calculated MW**

67196 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**Subcellular Localization**

Cytoplasm . Cell membrane ; Peripheral membrane protein ; Cytoplasmic side . Although the majority of MAP3K7/TAK1 is found in the cytosol, when complexed with TAB1/MAP3K7IP1 and TAB2/MAP3K7IP2, it is also localized at the cell membrane.

**Tissue Specificity**

Isoform 1A is the most abundant in ovary, skeletal muscle, spleen and blood mononuclear cells. Isoform 1B is highly expressed in brain, kidney and small intestine. Isoform 1C is the major form in prostate. Isoform 1D is the less abundant form. .

**Protein Name**

Mitogen-activated protein kinase kinase kinase 7

**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>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human TAK1 (566-603aa RLVQEHKLLDENKSLSTYYQCKKQLEVIRSQQQKRQ), 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.**

### Anti-TAK1 Picoband Antibody - Protein Information

**Name** MAP3K7 {ECO:0000303|PubMed:28397838, ECO:0000312|HGNC:HGNC:6859}

#### Function

Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway (PubMed:[10094049](http://www.uniprot.org/citations/10094049), PubMed:[11460167](http://www.uniprot.org/citations/11460167), PubMed:[12589052](http://www.uniprot.org/citations/12589052), PubMed:[16845370](http://www.uniprot.org/citations/16845370), PubMed:[16893890](http://www.uniprot.org/citations/16893890), PubMed:[21512573](http://www.uniprot.org/citations/21512573), PubMed:[8663074](http://www.uniprot.org/citations/8663074), PubMed:[9079627](http://www.uniprot.org/citations/9079627)). Plays an important role in the cascades of cellular responses evoked by changes in the environment (PubMed:[10094049](http://www.uniprot.org/citations/10094049), PubMed:[11460167](http://www.uniprot.org/citations/11460167), PubMed:[12589052](http://www.uniprot.org/citations/12589052), PubMed:[16845370](http://www.uniprot.org/citations/16845370), PubMed:[16893890](http://www.uniprot.org/citations/16893890), PubMed:[21512573](http://www.uniprot.org/citations/21512573), PubMed:[8663074](http://www.uniprot.org/citations/8663074), PubMed:[9079627](http://www.uniprot.org/citations/9079627)). Mediates signal transduction of TRAF6, various cytokines including interleukin-1 (IL-1), transforming growth factor-beta (TGFB), TGFB-related factors like BMP2 and BMP4, toll-like receptors (TLR), tumor necrosis factor receptor CD40 and B-cell receptor (BCR) (PubMed:[16893890](http://www.uniprot.org/citations/16893890), PubMed:[9079627](http://www.uniprot.org/citations/9079627)). Once activated, acts as an upstream activator of the MKK/JNK signal transduction cascade and the p38 MAPK signal transduction cascade through the phosphorylation and activation of several MAP kinase kinases like MAP2K1/MEK1, MAP2K3/MKK3, MAP2K6/MKK6 and MAP2K7/MKK7 (PubMed:[11460167](http://www.uniprot.org/citations/11460167), PubMed:[8663074](http://www.uniprot.org/citations/8663074)). These MAP2Ks in turn activate p38 MAPKs and c-jun N-terminal kinases (JNKs); both p38 MAPK and JNK pathways control the transcription factors activator protein-1 (AP-1) (PubMed:[11460167](http://www.uniprot.org/citations/11460167), PubMed:[12589052](http://www.uniprot.org/citations/12589052), PubMed:[8663074](http://www.uniprot.org/citations/8663074)). Independently of MAP2Ks and p38 MAPKs, acts as a key activator of NF-kappa-B by promoting activation of the

I-kappa-B-kinase (IKK) core complex (PubMed:<a href="http://www.uniprot.org/citations/12589052" target="\_blank">12589052</a>, PubMed:<a href="http://www.uniprot.org/citations/8663074" target="\_blank">8663074</a>). Mechanistically, recruited to polyubiquitin chains of RIPK2 and IKBKG/NEMO via TAB2/MAP3K7IP2 and TAB3/MAP3K7IP3, and catalyzes phosphorylation and activation of IKBKB/IKKB component of the IKK complex, leading to NF-kappa-B activation (PubMed:<a href="http://www.uniprot.org/citations/10094049" target="\_blank">10094049</a>, PubMed:<a href="http://www.uniprot.org/citations/11460167" target="\_blank">11460167</a>). In osmotic stress signaling, plays a major role in the activation of MAPK8/JNK1, but not that of NF-kappa-B (PubMed:<a href="http://www.uniprot.org/citations/16893890" target="\_blank">16893890</a>). Promotes TRIM5 capsid-specific restriction activity (PubMed:<a href="http://www.uniprot.org/citations/21512573" target="\_blank">21512573</a>). Phosphorylates RIPK1 at 'Ser-321' which positively regulates RIPK1 interaction with RIPK3 to promote necroptosis but negatively regulates RIPK1 kinase activity and its interaction with FADD to mediate apoptosis (By similarity). Phosphorylates STING1 in response to cGAMP-activation, promoting association between STEEP1 and STING1 and STING1 translocation to COPII vesicles (PubMed:<a href="http://www.uniprot.org/citations/37832545" target="\_blank">37832545</a>).

#### Cellular Location

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#### Tissue Location

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#### Anti-TAK1 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-TAK1 Picoband Antibody - Images





Western blot analysis of TAK1 expression in rat spleen extract (lane 1) and HELA whole cell lysates (lane 2). TAK1 at 79KD was detected using rabbit anti- TAK1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11624) at 0.5  $\mu$ g/mL. The blot was developed using chemiluminescence (ECL) method .

#### **Anti-TAK1 Picoband Antibody - Background**

Mitogen-activated protein kinase kinase kinase 7, also known as TAK1, is an enzyme that in humans is encoded by the MAP3K7 gene. The protein encoded by this gene is a member of the serine/threonine protein kinase family. This kinase mediates the signaling transduction induced by TGF beta and morphogenetic protein (BMP), and controls a variety of cell functions including transcription regulation and apoptosis. In response to IL-1, this protein forms a kinase complex including TRAF6, MAP3K7P1/TAB1 and MAP3K7P2/TAB2; this complex is required for the activation of nuclear factor kappa B. This kinase can also activate MAPK8/JNK, MAP2K4/MKK4, and thus plays a role in the cell response to environmental stresses. Four alternatively spliced transcript variants encoding distinct isoforms have been reported.