

**Tak1 (phospho Ser439) Polyclonal Antibody**  
Catalog # AP67719**Specification****Tak1 (phospho Ser439) Polyclonal Antibody - Product Information**

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

**Tak1 (phospho Ser439) Polyclonal Antibody - Additional Information****Gene ID** 6885**Other Names**

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

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/5000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**Tak1 (phospho Ser439) Polyclonal 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)).

href="http://www.uniprot.org/citations/16845370" target="\_blank">16845370</a>, PubMed:<a href="http://www.uniprot.org/citations/16893890" target="\_blank">16893890</a>, PubMed:<a href="http://www.uniprot.org/citations/21512573" target="\_blank">21512573</a>, PubMed:<a href="http://www.uniprot.org/citations/8663074" target="\_blank">8663074</a>, PubMed:<a href="http://www.uniprot.org/citations/9079627" target="\_blank">9079627</a>). Mediates signal transduction of TRAF6, various cytokines including interleukin-1 (IL-1), transforming growth factor-beta (TGFβ), TGFβ-related factors like BMP2 and BMP4, toll-like receptors (TLR), tumor necrosis factor receptor CD40 and B-cell receptor (BCR) (PubMed:<a href="http://www.uniprot.org/citations/16893890" target="\_blank">16893890</a>, PubMed:<a href="http://www.uniprot.org/citations/9079627" target="\_blank">9079627</a>). 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:<a href="http://www.uniprot.org/citations/11460167" target="\_blank">11460167</a>, PubMed:<a href="http://www.uniprot.org/citations/8663074" target="\_blank">8663074</a>). 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:<a href="http://www.uniprot.org/citations/11460167" target="\_blank">11460167</a>, 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>). Independently of MAP2Ks and p38 MAPKs, acts as a key activator of NF-κappa-B by promoting activation of the I-κappa-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/IKK component of the IKK complex, leading to NF-κappa-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-κappa-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

Cytoplasm. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=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 Location

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

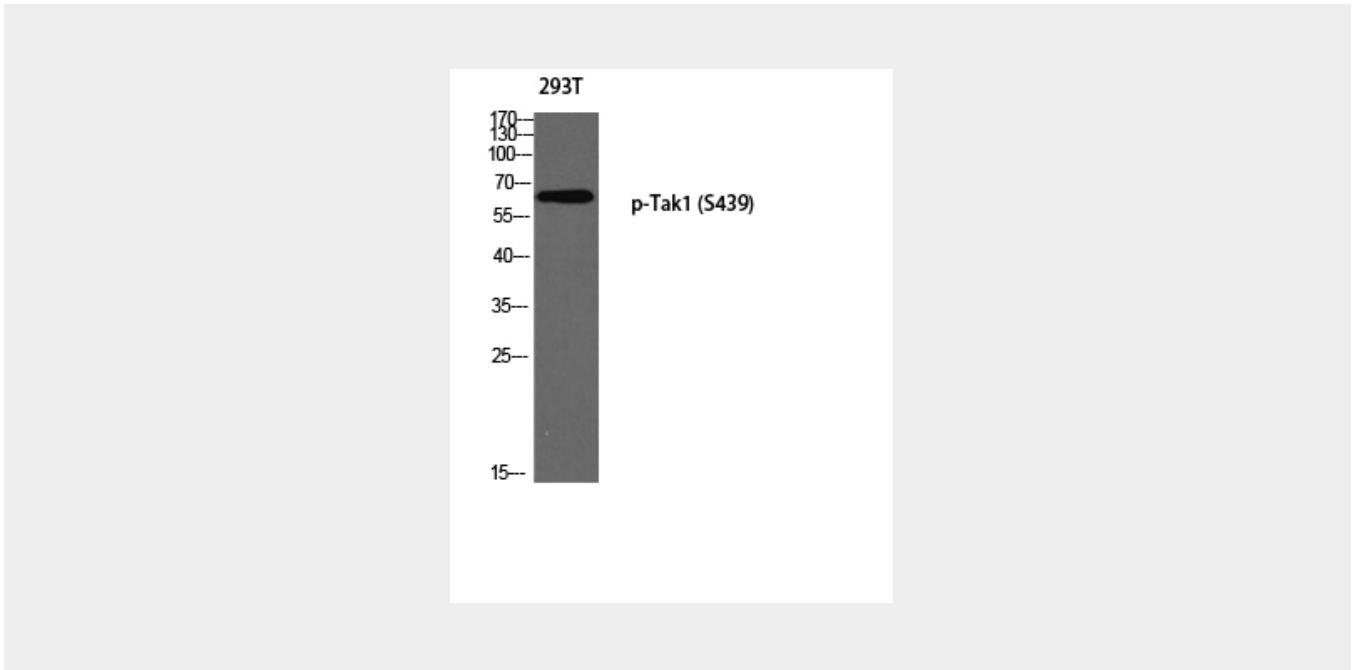
## Tak1 (phospho Ser439) Polyclonal Antibody - Protocols

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](#)

### Tak1 (phospho Ser439) Polyclonal Antibody - Images



### Tak1 (phospho Ser439) Polyclonal Antibody - Background

Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. Plays an important role in the cascades of cellular responses evoked by changes in the environment. 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). Ceramides are also able to activate MAP3K7/TAK1. 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. These MAP2Ks in turn activate p38 MAPKs, c-jun N-terminal kinases (JNKs) and I-kappa-B kinase complex (IKK). Both p38 MAPK and JNK pathways control the transcription factors activator protein-1 (AP-1), while nuclear factor-kappa B is activated by IKK. MAP3K7 activates also IKBKB and MAPK8/JNK1 in response to TRAF6 signaling and mediates BMP2- induced apoptosis. In osmotic stress signaling, plays a major role in the activation of MAPK8/JNK1, but not that of NF-kappa-B. Promotes TRIM5 capsid-specific restriction activity.