



Rabbit Anti-Phospho-TAK1 (Ser192) antibody

SL5435R

Product Name:	Phospho-TAK1 (Ser192)
Chinese Name:	磷酸化转化生长因子β活化激酶1
Alias:	MAP3K7(phospho S192); TAK1(Phospho Ser192); MAP3K7; Mitogen-activated protein kinase kinase kinase 7; Transforming growth factor-beta-activated kinase 1; TGF-beta-activated kinase 1; MAP3K 7; MAPKKK7; Mitogen activated protein kinase kinase kinase 7; TAK1; TGF beta activated kinase 1; TGF1a; Transforming growth factor beta activated kinase 1; M3K7_HUMAN; Map3k7; MEKK7; TGF-beta-activated kinase 1; TGF1a; Transforming growth factor-beta-activated kinase 1.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Pig,Cow,Horse,Rabbit,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1µg/TestIF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	67kDa
Cellular localization:	cytoplasmicThe cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from human TAK1 around the phosphorylation site of Ser192:KG(p-S)AA
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed

TAK1 (or MAP3K7) was shown to participate in regulation of transcription by transforming growth factor beta (TGF beta). TAK1 is stimulated in response to TGF beta and bone morphogenetic protein. These results suggest that TAK1 functions as a mediator in the signaling pathway of TGF beta superfamily members. TAB1 and TAB2 are TAK1 binding proteins that may function as activators of the TAK1 (TGF beta activated kinase 1) MAPKKK in TGF beta signal transduction. TAB1 induced TAK1 activation promoted the dissociation of active forms of IKKalpha and IKK beta from active TAK1, whereas the IKK mutants remained to interact with active TAK1. TNF alpha activated endogenous TAK1, and the kinase negative TAK1 acted as a dominant negative inhibitor against TNF alpha induced NFkappaB activation. TAK1 was suggested to act as a regulatory kinase of IKKs.

Function:

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.

Subunit:

Binds both upstream activators and downstream substrates in multimolecular complexes. Interacts with TAB1/MAP3K7IP1, TAB2/MAP3K7IP2 and TAB3/MAP3K7IP3. Identified in the TRIKA2 complex composed of MAP3K7/TAK1, TAB1/MAP3K7IP1 and TAB2/MAP3K7IP2. Interacts with PPM1L and PPM1B/PP2CB. Interaction with PP2A and PPP6C leads to its repressed activity. Interacts with TRAF6 and TAB1/MAP3K7IP1; during IL-1 signaling. Interacts with TAOK1 and TAOK2; interaction with TAOK2 interferes with MAP3K7 interaction with IKKalpha, thus preventing NF-kappa-B activation. Interacts with WDR34 (via WD domains). Interacts with CYLD and RBCK1. Interacts with TGFBR1; induces MAP3K7/TAK1 activation by TRAF6. Interacts with MAPK8IP1 and SMAD6 (By similarity). Interacts with isoform 1 of VRK2. Interacts with DAB2; the interaction is induced by TGF-beta stimulation and may mediate TGF-beta stimulated JNK activation. Interacts with TRIM5.

Product Detail:

Subcellular 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 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.

Post-translational modifications:

Association with TAB1/MAP3K7IP1 promotes autophosphorylation at Ser-192 and subsequent activation. Association with TAB2/MAP3K7IP2, itself associated with free unanchored Lys-63 polyubiquitin chain, promotes autophosphorylation and subsequent activation of MAP3K7. Dephosphorylation at Ser-192 by PPM1B/PP2CB and at Thr-187 by PP2A and PPP6C leads to inactivation.

Ubiquitinated, leading to proteasomal degradation (By similarity). Requires 'Lys-63'-linked polyubiquitination for autophosphorylation and subsequent activation. 'Lys-63'-linked ubiquitination does not lead to proteasomal degradation. Deubiquitinated by CYLD, a protease that selectively cleaves 'Lys-63'-linked ubiquitin chains. Deubiquitinated by *Y. enterocolitica* YopP.

Similarity:

Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. MAP kinase kinase kinase subfamily.

Contains 1 protein kinase domain.

SWISS:

O43318

Gene ID:

6885

Database links:

[Entrez Gene: 6885](#)Human

[Entrez Gene: 26409](#)Mouse

[Entrez Gene: 313121](#)Rat

[Omim: 602614](#)Human

[SwissProt: O43318](#)Human

[SwissProt: Q62073](#)Mouse

[SwissProt: P0C8E4](#)Rat

[Unigene: 722892](#)Human

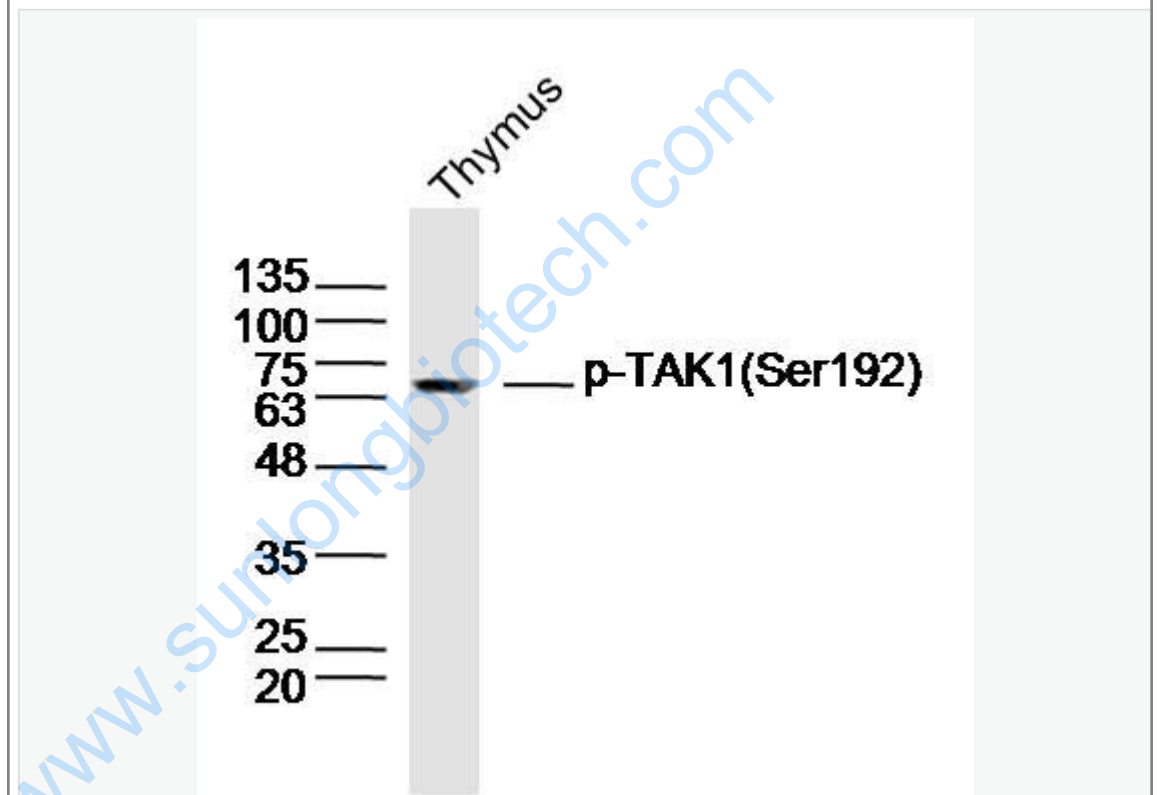
[Unigene: 258589](#)Mouse

[Unigene: 24019](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Picture:



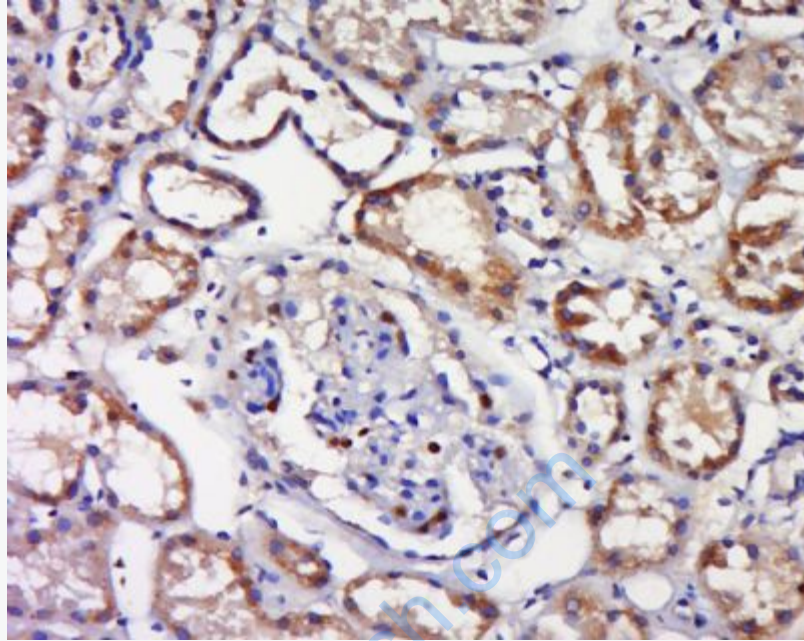
Sample: Thymus (Rat) Lysate at 40 ug

Primary: Anti-Phospho-TAK1(Ser192) (SL5435R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 67 kD

Observed band size: 67 kD

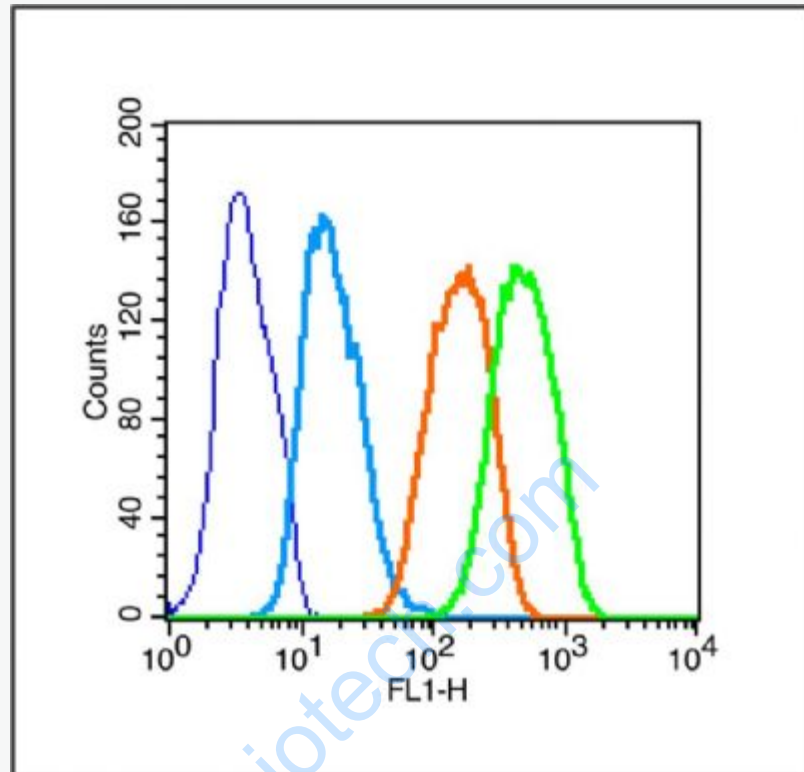


Tissue/cell: human kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-Phospho-TAK1(Ser192)Polyclonal Antibody,

Unconjugated(SL5435R) 1:500, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control (Black line): Raji (Black).

Primary Antibody (green line): Rabbit Anti- Phospho-c-Fos (Ser32) antibody (SL5435R)

Dilution: 1 μ g /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-PE

Dilution: 1 μ g /test.

Protocol

The cells were fixed with 70% ice-cold methanol overnight at 4°C and then permeabilized with 0.1% PBS-Tween for 20 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The cells were then incubated in 1 X PBS/2%BSA/10% goat serum to block non-specific protein-protein

interactions followed by the antibody for 15 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.

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