

Anti-TAK1 Antibody

Rabbit polyclonal antibody to TAK1

Catalog # AP60337

Product Information

Application	WB, IHC
Primary Accession	Q43318
Other Accession	Q62073
Reactivity	Human, Mouse, Rat, Zebrafish, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67196

Additional Information

Gene ID	6885
Other Names	TAK1; Mitogen-activated protein kinase kinase kinase 7; Transforming growth factor-beta-activated kinase 1; TGF-beta-activated kinase 1
Target/Specificity	Recognizes endogenous levels of TAK1 protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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 , PubMed: 11460167 , PubMed: 12589052 , PubMed: 16845370 , PubMed: 16893890 , PubMed: 21512573 , PubMed: 8663074 , PubMed: 9079627). Plays an important role in the cascades of cellular responses evoked by changes in the environment (PubMed: 10094049 , PubMed: 11460167 , PubMed: 12589052 , PubMed: 16845370 , PubMed: 16893890 , PubMed: 21512573 , PubMed: 8663074 , PubMed: 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 , PubMed: 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](#), PubMed:[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](#), PubMed:[12589052](#), PubMed:[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:[12589052](#), PubMed:[8663074](#)). 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:[10094049](#), PubMed:[11460167](#)). In osmotic stress signaling, plays a major role in the activation of MAPK8/JNK1, but not that of NF-kappa-B (PubMed:[16893890](#)). Promotes TRIM5 capsid-specific restriction activity (PubMed:[21512573](#)). 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:[37832545](#)).

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

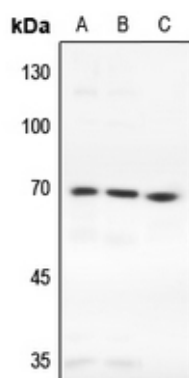
Tissue Location

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

Background

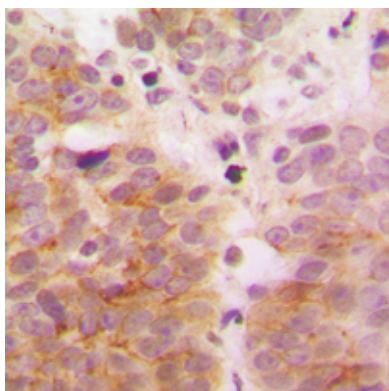
KLH-conjugated synthetic peptide encompassing a sequence within the center region of human TAK1. The exact sequence is proprietary.

Images



Western blot analysis of TAK1 expression in mouse lung (A), mouse liver (B), rat liver (C) whole cell lysates.

Immunohistochemical analysis of TAK1 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room



temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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