10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MAP3K7 Antibody (T187) Blocking Peptide

Synthetic peptide
Catalog # BP7953d

Specification

MAP3K7 Antibody (T187) Blocking Peptide - Product Information

Primary Accession O43318

MAP3K7 Antibody (T187) Blocking Peptide - Additional Information

Gene ID 6885

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7953d was selected from the T187 region of human MAP3K7. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MAP3K7 Antibody (T187) Blocking Peptide - 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:<a

href="http://www.uniprot.org/citations/10094049" target="_blank">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:9079627, PubMed:16893890). 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:8663074, PubMed:11460167). 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:8663074, PubMed:11460167, PubMed:12589052). 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:8663074, PubMed:12589052). 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

MAP3K7 Antibody (T187) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

MAP3K7 Antibody (T187) Blocking Peptide - Images

MAP3K7 Antibody (T187) Blocking Peptide - Background

TAK1 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.

MAP3K7 Antibody (T187) Blocking Peptide - References

Cheung, P.C., et al., EMBO J. 22(21):5793-5805 (2003).Sakurai, H., et al., J. Biol. Chem. 278(38):36916-36923 (2003).Ono, K., et al., Biochem. Biophys. Res. Commun. 307(2):332-337 (2003).Edlund, S., et al., Mol. Biol. Cell 14(2):529-544 (2003).Takaesu, G., et al., J. Mol. Biol. 326(1):105-115 (2003).