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KD-Validated Anti-MAP3K7 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1134

Specification

KD-Validated Anti-MAP3K7 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O43318
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 67 kDa , observed, 75 kDa KDa**
Gene Name	**MAP3K7**
Aliases	**MAP3K7; Mitogen-Activated Protein Kinase Kinase Kinase 7; MEKK7; TAK1; Transforming Growth Factor-Beta-Activated Kinase 1; TGF-Beta Activated Kinase 1; EC 2.7.11.25; TGF-Beta-Activated Kinase 1; EC 2.7.11; TGF1a; CSCF; FMD2**
Immunogen	**A synthesized peptide derived from human TAK1**

KD-Validated Anti-MAP3K7 Rabbit Monoclonal 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 {ECO:0000303|PubMed:28397838, ECO:0000312|HGNC:HGNC:6859}

KD-Validated Anti-MAP3K7 Rabbit Monoclonal 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, 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:<a

href="http://www.uniprot.org/citations/11460167" target="_blank">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

KD-Validated Anti-MAP3K7 Rabbit Monoclonal Antibody - Protocols

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

- Western Blot

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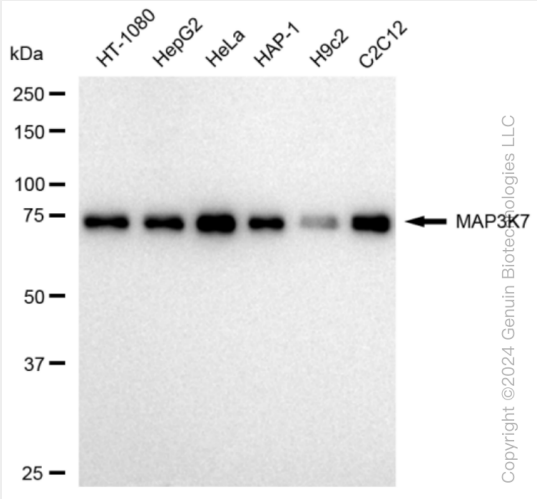
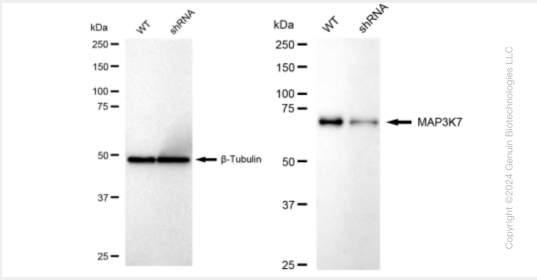
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-MAP3K7 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-MAP3K7 antibody (Cat#AGI1134). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-MAP3K7 antibody (Cat#AGI1134, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-MAP3K7 antibody (Cat#AGI1134). MAP3K7 expression in wild type (WT) and MAP3K7 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-MAP3K7 antibody (Cat#AGI1134, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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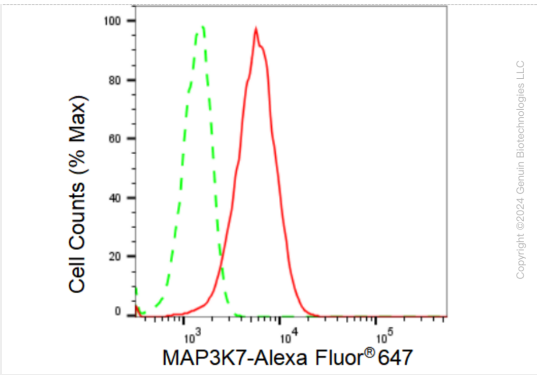
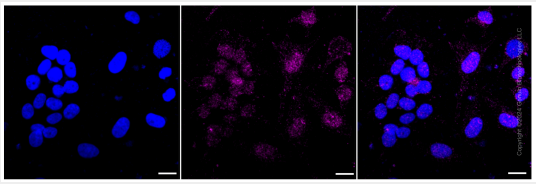


Flow cytometric analysis of MAP3K7 expression in HeLa cells using MAP3K7 antibody (Cat#AGI1134, 1:2,000). Green, isotype control; red, MAP3K7.



Immunocytochemical staining of Hela cells with MAP3K7 antibody (Cat#AGI1134, 1:1,000). Nuclei were stained blue with DAPI; MAP3K7 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Very low. Scale bar: 20 µm.