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

# Goat Anti-TAK1 / MAP3K7 Antibody
**Peptide-affinity purified goat antibody**
**Catalog # AF2065a**

## Specification

### Goat Anti-TAK1 / MAP3K7 Antibody - Product Information

| | |
|---|---|
| Application | **WB** |
| Primary Accession | O43318 |
| Other Accession | NP_663304, 6885, 26409 (mouse) |
| Reactivity | **Human** |
| Predicted | **Mouse, Rat** |
| Host | **Goat** |
| Clonality | **Polyclonal** |
| Concentration | **100ug/200ul** |
| Isotype | **IgG** |
| Calculated MW | **67196** |

### Goat Anti-TAK1 / MAP3K7 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, TAK1

**Format**
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
Goat Anti-TAK1 / MAP3K7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Goat Anti-TAK1 / MAP3K7 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:<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>, PubMed:<a href="http://www.uniprot.org/citations/12589052" target="_blank">12589052</a>, PubMed:<a 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>). 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</a>, 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/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 (TGFB), TGFB-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/9079627" target="_blank">9079627</a>, PubMed:<a href="http://www.uniprot.org/citations/16893890" target="_blank">16893890</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/8663074" target="_blank">8663074</a>, PubMed:<a href="http://www.uniprot.org/citations/11460167" target="_blank">11460167</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/8663074" target="_blank">8663074</a>, 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>). 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:<a href="http://www.uniprot.org/citations/8663074" target="_blank">8663074</a>, PubMed:<a href="http://www.uniprot.org/citations/12589052" target="_blank">12589052</a>). 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:<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-kappa-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).

### 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

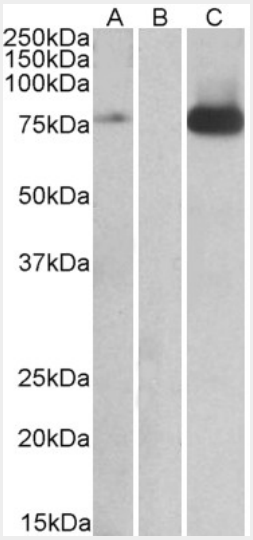
### Tissue Location
Isoform 1A is the most abundant in ovary, skeletal muscle, spleen and blood mononuclear cells. Isoform 1B is highly expressed in brain, kidney and small intestine. Isoform 1C is the major form in prostate. Isoform 1D is the less abundant form

## Goat Anti-TAK1 / MAP3K7 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 Cytomety
- Cell Culture

## Goat Anti-TAK1 / MAP3K7 Antibody - Images




HEK293 lysate (10ug protein in RIPA buffer) overexpressing Human MAP3K7 with DYKDDDDK tag probed with AF2065a (1ug/ml) in Lane A and probed with anti- DYKDDDDK Tag (1/3000) in lane C. Mock-transfected HEK293 probed with AF2065a (1mg/ml) in Lane B. Primary incubations were for 1 hour. Detected by chemiluminescence.

## Goat Anti-TAK1 / MAP3K7 Antibody - Background

The protein encoded by this gene 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. Four alternatively spliced transcript variants encoding distinct isoforms have been reported.

## Goat Anti-TAK1 / MAP3K7 Antibody - References

An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. Hum Genet, 2010 Oct. PMID 20677014.
Tumor suppressor A20 protects against cardiac hypertrophy and fibrosis by blocking transforming growth factor-beta-activated kinase 1-dependent signaling. Huang H, et al. Hypertension, 2010 Aug. PMID 20585109.
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process. Scholz R, et al. J Biol Chem, 2010 Aug 13. PMID 20538596.
Association between anti-tumour necrosis factor treatment response and genetic variants within the TLR and NF{kappa}B signalling pathways. Potter C, et al. Ann Rheum Dis, 2010 Jul. PMID 20448286.
Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. Mol Med, 2010 Jul-Aug. PMID 20379614.