

## Product datasheet for **MR226783**

### Map3k7 (NM\_172688) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Map3k7 (NM_172688) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Map3k7
Synonyms:	B430101B05; C87327; Tak1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR226783 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCGACAGCCTCCGCCCTCGTCTCTCTCGTCTTCTGCCAGTGAGATGATCGAAGCGCCGTCGC  
 AGGTCCTGAACCTCGAAGAGATCGACTACAAGGAGATCGAGGTGGAAGAGGTTGTCGGAAGAGGAGCTTT  
 TGGAGTAGTTTGCAAAGCTAAGTGGAGAGCAAAAGATGTCGCTATTAAACAGATAGAAAAGTGAAGTCTGAG  
 AGGAAGGCTTTTATTGTGGAGCTCCGGCAGTTGTCACGTGTGAACCATCCTAACATTGTCAAGTTGTATG  
 GAGCCTGCCTGAATCCAGTATGTCTTGTGATGGAATATGCAGAGGGGGGCTCATTGTATAATGTGCTGCA  
 TGGTGTGAACCATGCCTTACTACACTGCTGCTCATGCCATGAGCTGGTGTTCACAGTGTCCCAAGGA  
 GTGGCTTACCTGCACAGCATGCAGCCAAAGCGCTGATTCACAGGGACCTCAAGCCTCCAAACTGTCTGC  
 TGGTTGCAGGAGGACAGTTCTAAAAATCTGCGATTTTGGTACAGCTTGTGACATCCAAACACACATGAC  
 CAATAATAAAGGGAGTGTGCTTGGATGGCGCCTGAAGTATTTGAAGGTAGCAATTACAGTGAAAAGTGT  
 GATGTCTTCAGCTGGGGTATTATCCTCTGGGAAGTGATAACACGCGGAAACCTTCGATGAGATCGGTG  
 GCCCAGCTTTCAGAATCATGTGGGCTGTTCAATATGGCACTCGACCACCACTGATCAAAAATTTACCTAA  
 GCCCATTGAGAGCTTGTGACACGCTGTTGGTCTAAGGACCCATCTCAGCGCCCTCAATGGAGGAAATT  
 GTGAAAATAATGACTCACTTGTGCGGTACTTCCAGGAGCGGATGAGCCGTTACAGTATCCTTGTGAGT  
 ACTCTGATGAAGGGCAGAGCAACTCAGCCACCAGCACAGGCTCATTATGGACATTGCTTCTACAAATAC  
 CAGTAATAAAAGTGACACAAATATGGAACAGGTTCTGCCACAAACGACACTATTAACGCTTGGAGTCA  
 AAACTTTTGAAAACCAGGCAAGCAACAGAGTGAATCTGGACGCTGAGCTTGGGAGCCTCTCGTGGGA  
 GCAGTGTGGAGAGCTTGGCCCCACTTCCGAGGGCAAGAGGATGAGTGTGACATGTCTGAAATAGAAG  
 CAGGATCGTGGGACTGCAGGTAACGGGAACCAAGGCGTAGATCCATCCAAGACTTGACTGTTACTGGG  
 ACAGAACCTGGTCAGGTGAGCAGCCGGTATCCAGCCCTAGTGTGAGAATGATCACTACCTCAGGACCAA  
 CCTCAGAGAAGCCAGCTCGCAGTCAACCGTGGACCCCTGATGATTCCACAGATACCAATGGCTCAGATAA  
 CTCCATCCCAATGGCGTATCTTACACTGGATCACCAGCTACAGCCTTAGCGCCGTGCCAAACTCCAAA  
 GAATCCATGGCAGTGTTCGAACAACATTGTAATAATGGCACAGGAGTATATGAAAGTTCAAACCGAAATCG  
 CATTGTTACTACAGAGAAAGCAAGAACTAGTTGCAGAATTGGACCAGGATGAAAAGGACCAGCAAAATAC  
 ATCTCGTCTGGTACAGGAACATAAAAAGCTTTTAGATGAAAACAAAAGCCTTTCTACTTATTACCAGCAA  
 TGCAAAAAACAACACTAGAGGTCATCAGAAGCCAACAGCAGAAACGACAAGGCACTCA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR226783 protein sequence  
 Red=Cloning site Green=Tags(s)

MSTASAASSSSSSASEMIEAPSQVLNFEEDIDYKEIEVEEVVGRGAFGVVCKAKWRAKDVAIKQIESESE  
 RKAFIVELRQLSRVNHPIVKLYGAACLNVPCLVMEYAEGGSLYNVLHGAELPPYYTAAHAMSWLQCSQG  
 VAYLHSMQPKAL IHRDLKPPNLLL VAGGTVLKICDFGTACDIQTHMTNNGSAAWMAPEVFEGSNYSEKC  
 DVFSWGIILWEVITRRKPFDEIGGPAFRIMWAVHNGTRPPLIKNLPKPIESLMTRCWSKDPSQRPSMEEI  
 VKIMTHLMRYFPGADEPLQYPCQYSDEGQNSATSTGSFMDIANTNSNKSDTNMEQVPATNDTIKRLS  
 KLLKNQAKQQSESGRLSLGASRGSSVESLPPTSEGKRMSADMSEIEARIVATAGNGQPRRSIQDLTVTG  
 TEPGQVSSRSSSPVSRMITTSPTSEKPARSHPWTPDDSTDTNGSDNSIPMAYLTLDHQLQPLAPCPNSK  
 ESMVFEQHCKMAQEYMKVQTEIALLLQRKQELVAELDQDEKQDQNTSRLVQEHKLLDENKSLSTYYQQ  
 CKKQLEVIRSQQKQKQTS

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_172688

**ORF Size:** 1737 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

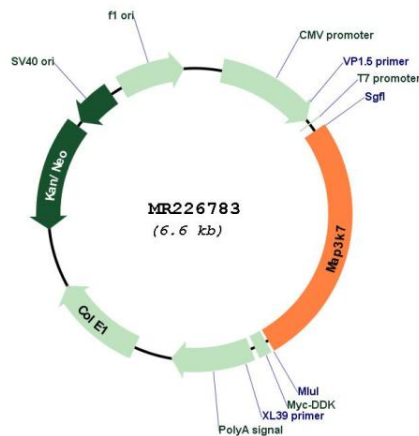
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_172688.3, NP\\_766276.1](#)  
**RefSeq Size:** 5682 bp  
**RefSeq ORF:** 1740 bp  
**Locus ID:** 26409  
**UniProt ID:** [Q62073](#)  
**Cytogenetics:** 4 A5  
**MW:** 64.2 kDa

**Gene Summary:** 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) (PubMed:10748100, PubMed:16157589, PubMed:21183079, PubMed:29291351). 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 (PubMed:16157589, PubMed:8533096, PubMed:29291351). MAP3K7 activates also IKBKB and MAPK8/JNK1 in response to TRAF6 signaling and mediates BMP2-induced apoptosis (PubMed:10748100). 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 (By similarity). [UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MR226783