

## Product datasheet for **MG218970**

### Map2k7 (NM\_001042557) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Map2k7 (NM_001042557) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Map2k7
Synonyms:	5930412N11Rik; JNKK 2; Jnkk2; MAPKK 7; Mapkk7; MEK 7; Mek7; Mkk7; Prkmk7; sek2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG218970 representing NM\_001042557  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGCGCGCTCCTCCCTGGAGCAGAAGCTGCCCGCTGGAAGCCAAGCTGAAGCAGGAGAACCCTGAGG  
 CCCGAGGAGGATCGACCTCAACTGGATATCAGCCACAGCGGCCAGGCCATTATTGTGATCACTCT  
 AAGCCCTGCTCCTGCCCGTCCCAGCGAGCAGCCCTGCAACTCCCACTGGCCAACGATGGGGCAGCCGC  
 TCACCATCCTCAGAGAGCTCCCCACAGCACCTACACCCCCACCCGGCCCGCCACATGCTGGGCTCC  
 CATCAACCTTGTTCACACCGCGCAGTATGGAGAGCATCGAGATTGACCAGAAGCTGCAGGAGATCATGAA  
 GCAGACAGGGTACCTGACTATCGGGGGCCAGCGTTATCAGGCAGAAATCAATGACTTGGAGAACTGGGT  
 GAGATGGCAGTGGTACCTGTGGTCAGGTGTGGAAGATGCGGTTCCGGAAGACAGGCCACATCATTGCTG  
 TTAAGCAAATGCGGCGCTCTGGGAACAAGGAAGAGAATAAGCGCATTGATGGACCTGGATGTAGTACT  
 CAAGAGCCATGACTGCCCTTACATCGTTTCACTGCTTTGGCACCTTCATCACCACACAGAGCTTTTATT  
 GCCATGGAGCTCATGGGCACATGTGCAGAGAAGCTGAAGAAACGAATGCAGGGCCCCATTCCAGAGCGAA  
 TCCTGGGCAAGATGACTGTGGCGATTGTGAAAGCACTGTACTATCTGAAGGAGAAGCATGGCGTCATCCA  
 TCGCGATGTCAAACCTCCAACATCCTGCTAGATGAGCGGGGCCAGATCAAGCTCTGTGACTTTGGCATC  
 AGTGGCCGCTTGTGACTCCAAAGCCAAAACCGGAGTGTGGCTGTGCTGCCTATATGGCTCCCGAGC  
 GCATCGACCTCCAGATCCCACCAAGCCTGACTATGACATCCGAGCTGATGTGTGGAGCCTGGGCATCTC  
 ACTGGTGGAGCTGGCAACAGGACAGTTCCCCTATAAGAACTGCAAGACGGACTTTGAGGTCTCACAAA  
 ATGACTGCCTTACTAAAGATCACAGGAAGAGACAAAGTATAATAAGCTACTTGAACACAGCTTCATCAA  
 GCACTATGAGATACTCGAGGTGGATGTCGCGTCTGTTTAAAGGATGTCATGGCGAAGACCGAGTCCCCA  
 AGGACTAGTGGAGTCTGAGTCAGCACCATCTGCCCTTCTTCACTGGGAGTCTGGAGGAGTCTCCCACT  
 CCCACCTTCTCCAAGTCTTCCCTCTGTCCAGCCATCCCTCAGGCCAGGCAGAGTGGGTCTCGGG  
 CAGG

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>MG218970 representing NM\_001042557  
 Red=Cloning site Green=Tags(s)

MAASSLEQKLSRLEAKLKQENREARRRIDLNLDISPQRPRPIIVITLSPAPAPSQRAALQLPLANDGGSR  
 SPSESSPQHPTPPTPRHMLGLPSTLFTPRSMESIEIDQKLQEIMKQTGYLTIGGQRYQAEINDLENLG  
 EMGSGTCGQVWKMFRKTGHIIAVKQMRRSNGNEENKRILMDLDVVLKSHDCPYIVQCFGTFITNTDVF  
 AMELMGTCAEKLLKRMQGPPIPERILGKMTVAIVKALYYLKEKHGVIHRDVKPSNILLDERGQIKLCDFGI  
 SGRLVDSKAKTRSAGCAAYMAPERIDPPDPTKPDYDIRADVWSLGLSLVELATGQFPYKNCKTDFEVLTK  
 VLQEEPLLPGHMGFSGDFQSFVKDCLTKDHRKRPKYNKLEHSFIKHYEILEVDVASWFKDVMAKTESP  
 RTSGVLSQHHLPPFFSGSLEESPTSPSPKSFPLSPAIPQAQAEWVSGR

**TRTRPLE** – GFP Tag – V

**Chromatograms:**

[https://cdn.origene.com/chromatograms/ja2018\\_b03.zip](https://cdn.origene.com/chromatograms/ja2018_b03.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_001042557

**ORF Size:** 1404 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.

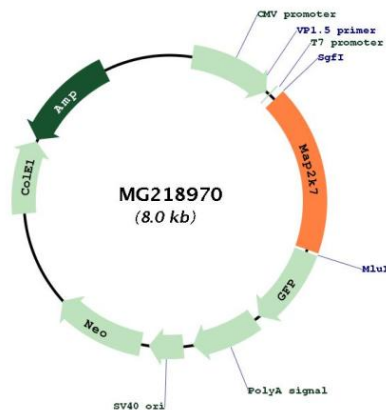
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- 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\\_001042557.2](#), [NP\\_001036022.1](#)  
**RefSeq Size:** 1720 bp  
**RefSeq ORF:** 1407 bp  
**Locus ID:** 26400  
**UniProt ID:** [Q8CE90](#)  
**Cytogenetics:** 8 A1.1

**Gene Summary:** Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Essential component of the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. With MAP2K4/MKK4, is the one of the only known kinase to directly activate the stress-activated protein kinase/c-Jun N-terminal kinases MAPK8/JNK1, MAPK9/JNK2 and MAPK10/JNK3. MAP2K4/MKK4 and MAP2K7/MKK7 both activate the JNKs by phosphorylation, but they differ in their preference for the phosphorylation site in the Thr-Pro-Tyr motif. MAP2K4/MKK4 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The monophosphorylation of JNKs on the Thr residue is sufficient to increase JNK activity indicating that MAP2K7/MKK7 is important to trigger JNK activity, while the additional phosphorylation of the Tyr residue by MAP2K4/MKK4 ensures optimal JNK activation. Has a specific role in JNK signal transduction pathway activated by proinflammatory cytokines. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Part of a non-canonical MAPK signaling pathway, composed of the upstream MAP3K12 kinase and downstream MAP kinases MAPK1/ERK2 and MAPK3/ERK1, that enhances the AP-1-mediated transcription of APP in response to APOE (PubMed:28111074).[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MG218970