

## Product datasheet for **MC227769**

### Map2k7 (NM\_001291777) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Map2k7 (NM_001291777) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Map2k7
Synonyms:	5930412N11Rik; JNKK 2; Jnkk2; MAPKK 7; Mapkk7; MEK 7; Mek7; Mkk7; Prkmk7; sek2
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >MC227769 representing NM\_001291777  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGCGGCGTCTCCCTGGAGCAGAAGCTGTCCCGCTGGAAGCCAAGCTGAAGCAGGAGAACCCTGAGG  
CCCGCAGGAGGATCGACCTCAACTTGGATATCAGCCACAGCGGCCAGGCCACCTGCAACTCCCACT  
GGCCAACGATGGGGCAGCCGCTCACCATCCTCAGAGAGCTCCCCACAGCACCTACACCCCCACCCGG  
CCCCGCCACATGCTGGGGCTCCCATCAACCTTGTTCACACCGCGCAGTATGGAGAGCATCGAGATTGACC  
AGAAGCTGCAGGAGATCATGAAGCAGACAGGGTACCTGACTATCGGGGGCCAGCGTTATCAGGCAGAAAT  
CAATGACTTGGAGAACTGGGTGAGATGGGCAGTGGTACCTGTGGTCAGGTGTGGAAGATGCGGTTCCGG  
AAGACAGGCCACATCATTGCTGTTAAGCAAATGCGGCGCTCTGGGAACAAGGAAGAGAATAAGCGCATT  
TGATGGACCTGGATGTAGTACTCAAGAGCCATGACTGCCCTTACATCGTTCAGTGCTTTGGCACCTTCAT  
CACCAACACAGAGCTCTTATTGCCATGGAGCTCATGGGCACATGTGCAGAGAAGCTGAAGAAACGAATG  
CAGGGCCCCATTCCAGAGCGAATCCTGGCAAGATGACTGTGGCGATTGTGAAAGCACTGTACTATCTGA  
AGGAGAAGCATGGCGTATCCATCGCGATGTCAAACCCTCCAACATCCTGCTAGATGAGCGGGGCCAGAT  
CAAGCTCTGTGACTTTGGCATCAGTGGCCGCTTGTGACTCCAAAGCCAAAACACGGAGTGTGGCTGT  
GCTGCCTATATGGCTCCCGAGCGCATCGACCCTCCAGATCCCACCAAGCCTGACTATGACATCCGAGCTG  
ATGTGTGGAGCCTGGGCATCTCACTGGTGGAGCTGGCAACAGGACAGTTCCTCCTATAAGAACTGCAAGAC  
GGACTTTGAGGTCCTCACAAAGTCCTACAGGAAGAGCCCCACTCCTGCCTGGTCACATGGGCTTCTCA  
GGGACTTCCAGTCATTTGTCAAAGACTGCCTTACTAAAGATCACAGGAAGAGACCAAAGTATAATAAGC  
TACTTGAACACAGCTTCATCAAGCACTATGAGTACTCGAGGTGGATGTGCGCTCCTGGTTAAGGATGT  
CATGGCGAAGACCGAGTCCCAAGGACTAGTGGAGTCTGAGTCAGCACCATCTGCCCTTCTTCAGTGGG  
AGTCTGGAGGAGTCTCCCACTTCCCACTTCTCCCAAGTCTTCCCTCTGTCACCAGCCATCCCTCAGG  
CCCAGGCAGAGTGGTCTCGGGCAGTAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_001291777

**Insert Size:** 1359 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.

**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\\_001291777.1](#), [NP\\_001278706.1](#)

**RefSeq Size:** 1672 bp

**RefSeq ORF:** 1359 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]

Transcript Variant: This variant (4) lacks an alternate in-frame exon in the 5' coding region compared to variant 1. The resulting isoform (4) has the same N- and C-termini but is shorter compared to isoform 1.