

Product datasheet for **MR229587**

Map2k7 (NM_001291778) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Map2k7 (NM_001291778) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Map2k7
Synonyms:	5930412N11Rik; JNKK 2; Jnk2; MAPKK 7; Mapkk7; MEK 7; Mek7; Mkk7; Prkmk7; sek2
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR229587 representing NM_001291778 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGCTGGGGCTCCCATCAACCTTGTTACACCCGCGCAGTATGGAGAGCATCGAGATTGACCAGAAGCTGC
AGGAGATCATGAAGCAGACAGGGTACCTGACTATCGGGGCCAGCGTTATCAGGCAGAAATCAATGACTT
GGAGAACTTGGGTGAGATGGGCAGTGGTACCTGTGGTCAGGTGTGAAGATGCGGTTCCGGAAGACAGGC
CACATCATTGCTGTTAAGCAAATGCGGCCCTCTGGGAACAAGGAAGAGAATAAGCGCATTTTGATGGACC
TGATGTAGTACTCAAGGCCATGACTGCCCTTACATCGTTTCAGTGCTTTGGCACCTTCATCACCAACAC
AGACGTCTTTATTGCCATGGAGCTCATGGGCACATGTGCAGAGAAGCTGAAGAAACGAATGCAGGGCCCC
ATTCCAGAGCGAATCCTGGGCAAGATGACTGTGGCGATTGTGAAAGCACTGTACTATCTGAAGGAGAAGC
ATGGCGTCATCCATCGCGATGTCAAACCCTCAACATCCTGTAGATGAGCGGGGCCAGATCAAGCTCTG
TGACTTTGGCATCAGTGGCCGCCTTGTGACTCCAAAGCCAAAACACGGAGTGTGGCTGTGCTGCCTAT
ATGGCTCCCGAGCGCATCGACCCTCCAGATCCCACCAAGCCTGACTATGACATCCGAGCTGATGTGTGA
GCCTGGGCATCTCACTGGTGGAGCTGGCAACAGGACAGTCCCCTATAAGAACTGCAAGACGGACTTTGA
GGTCCTCACAAAGTCTACAGGAAGAGCCCCACTCCTGCCTGGTCACATGGGCTTCTCAGGGGACTTC
CAGTCATTTGTCAAAGACTGCCTTACTAAAGATCACAGGAAGAGACCAAAGTATAAATAAGCTACTTGAAC
ACAGCTTCATCAAGCACTATGAGATACTCGAGGTGGATGTGCGCTCCTGGTTAAGGATGTCATGGCGAA
GACCGAGTCCCCAAGGACTAGTGGAGTCTGAGTCAGCACCATCTGCCCTTCTTCAGTGGGAGTCTGGAG
GAGTCTCCCACTTCCCACCTTCTCCAAGTCTTCCCTCTGTACCAGCCATCCCTCAGGCCAGGCAG
AGTGGGTCTCGGGCAGG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR229587 representing NM_001291778
 Red=Cloning site Green=Tags(s)

MLGLPSTLFTPRSMESIEIDQKLQEIMKQTGYLTIGGQRYQAEINDLENLGEMSGTCGQVWKMFRKTG
 HIIAVKQMRRSNGKEENKRILMDLDVVLKSHDCPYIVQCFTFITNTDVFIAEMLMGTCAEKLKKRMQGP
 IPERILGKMTVAIVKALYYLKEKHGVIHRDVKPSNILLDERGQIKLCDFGISGRVLVDSKAKTRSAGCAAY
 MAPERIDPPDPTKPDYDIRADVWSLGISLVELATGQFPYKNCKTDFEVLTKVLQEEPLLPGHMGFSGDF
 QSFVKDCLTKDHRKRPKYNKLLHESFIKHYEILEVDVASWFKDVMAKTESPRTSGVLSQHHLPPFFSGSLE
 ESPTSPSPKSFPLSPAIPQAQAQAEWVSGR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

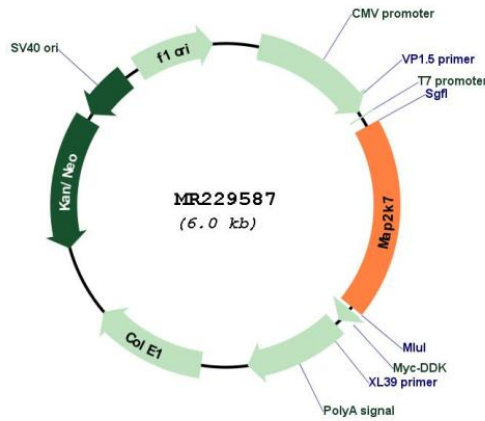
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001291778

ORF Size:	1137 bp
OTI Disclaimer:	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:	<ol style="list-style-type: none">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_001291778.1 , NP_001278707.1
RefSeq Size:	1563 bp
RefSeq ORF:	1140 bp
Locus ID:	26400
UniProt ID:	Q8CE90
Cytogenetics:	8 A1.1
MW:	43.2 kDa

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]