

Product datasheet for MR203798

Map2k4 (BC029833) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Map2k4 (BC029833) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Map2k4
Synonyms:	MEK4, MKK4, Sek1, JNKK1, PRKMK4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR203798 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGTCCACAACCAAGTGGGCAGATAATGGCAGTTAAAAGAATTCGGTCAACTGTGGATGAAAAAGAAC
AAAAACAACCTTCATGGATTTGGATGTAGTAATGCGGAGTAGTGATTGCCCATACATTGTTCAAGTTCTA
TGGTGCACTCTTCAGAGAGGGCGACTGTTGGATCTGTATGGAGCTCATGTCTACCTCGTTTCGATAAGTTT
TACAAATATGTATATAGTGTGTAGATGACGTTATTCGGAAGAGATCTTAGGCAAAATCACTTTAGCAA
CTGTGAAAGCACTAAACCACTTAAAAGAAAACCTGAAAATTATTCACAGAGACATCAAACCTTCCAATAT
TCTTCTGGACAGAAGTGGAAATATAAGCTCTGTGATTTCCGGCATCAGTGGACAGCTTGTGGACTCTATT
GCCAAGACAAGAGATGCTGGGTGTAGGCCGTATATGGCACCTGAAAGAATAGACCAAGTGCATCAAGAC
AAGGGTATGATGTCGCTCTGATGTCTGGAGTTTGGGGATCACATTGTACGAGTTGGCCACAGGCCGATT
TCCTTATCCAAAGTGGAAATAGTGTATTTGATCAGCTAACACAAGTGGTGAAGGAGACCTCCGCAGCTG
AGTAATTCTGAAGAAAGGGAGTTCTCCCCAGTTTCATCAACTTTGTCAACTTGTGCCTTACGAAGGATG
AATCCAAAAGGCCAAAGTATAAAGAGCTTCTGAAACATCCCTTTATTTTGATGTATGAAGAACGTAAGTGT
AGAGTCCGATGCTATGTTTGAAAAATCCTGGATCAGATGCCAGCCACTCCAGCTCGCCATGTATGTC
GAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR203798 protein sequence
Red=Cloning site Green=Tags(s)

MVHKPSGQIMAVKRIRSTVDEKEQKQLLMDLDVVMRSSDCPYIVQFYGALFREGDCWICMELMSTSFDFK
 YKYVYVSLDDVIPEEILGKITLATVKALNHLKENLKIHRDIKPSNILLDRSGNIKLCDFGISGQLVDSI
 AKTRDAGCRPYMAPERIDPSASRQGYDVRSDVWSLGITLYELATGRFPYPKWNSVFDQLTQVVKGDPPQL
 SNSEEREFSPSFINFVNLCLTKDESKRPKYKELLKHPFILMYEERTVEVACYVCKILDQMPATPSSPMYV
 D

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: BC029833

ORF Size: 843 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:

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: [BC029833](#), [AAH29833](#)

RefSeq Size: 2373 bp

RefSeq ORF: 845 bp

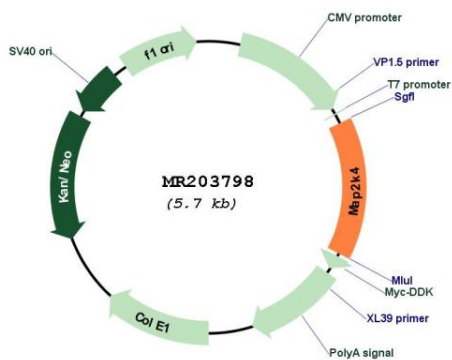
Locus ID: 26398

Cytogenetics: 11 40.53 cM

MW: 32.2 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 MAP2K7/MKK7, 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 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The phosphorylation of the Thr residue by MAP2K7/MKK7 seems to be the prerequisite for JNK activation at least in response to proinflammatory cytokines, while other stimuli activate both MAP2K4/MKK4 and MAP2K7/MKK7 which synergistically phosphorylate JNKs. MAP2K4 is required for maintaining peripheral lymphoid homeostasis. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Whereas MAP2K7/MKK7 exclusively activates JNKs, MAP2K4/MKK4 additionally activates the p38 MAPKs MAPK11, MAPK12, MAPK13 and MAPK14.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR203798