

Product datasheet for MR206149

Map2k1 (NM_008927) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Map2k1 (NM_008927) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Map2k1
Synonyms:	MAPKK1; Mek1; MEKK1; Prkmk1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR206149 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCAAGAAGAAGCCGACGCCATCCAGCTGAACCCGGCCCCGATGGCTCGGCGTTAACGGGACCA
GCTCGGCCGAGACCAACCTGGAGGCCTTGACAGAAGAAGCTGGAGGAGCTGGAGCTTGACGAGCAGCAGCG
GAAGCGGCTCGAGGCCTTCTGACGCAGAAGCAGAAGTGGGGAACTGAAGGATGATGACTTTGAGAAG
ATCAGCGAACTGGGAGCTGGCAACGGTGGAGTGGTCTTCAAGGTCTCCACAAGCCATCTGGCCTGGTTA
TGGCTAGAAAGCTGATCCACCTGGAGATCAAACCCGCAATCCGGAACCAGATCATCCGGGAGCTGCAGGT
ACTGCACGAGTGAACCTCCCGTACATCGTGGGCTTCTACGGGGCCTTCTACAGCGACGGCAGATCAGC
ATCTGCATGGAGCACATGGATGGTGGTCTTGGATCAAGTTCTGAAGAAAGCTGGAAGAATTCCTGAGC
AAATTTTAGGAAAAGTTAGCATTGCTGTGATAAAAGGCCTGACCTATCTTCGGGAGAAGCACAAGATTAT
GCACAGAGATGTCAAGCCATCCAACATTCTAGTGAACCTCACGTGGGGAGATCAAACCTCTGTGATTTGGG
GTCAGCGGGCAGCTAATTGACTCTATGGCAACTCCTTCGTGGGCAGGAGATCCTACATGTCGCCTGAGA
GACTCCAGGGGACTCACTACTCTGTGCAGTCGGACATCTGGAGCATGGGGCTCTCTCTGGTGGAGATGGC
AGTTGGGAGATACCCATTCTCCTCTGATGCCAAGGAGCTGGAGCTACTGTTTGGATGCCATGTGGAA
GGAGACGCAGCCGAAACACCACCAGGCCAAGGACCCCTGGGAGGCCTCTCAGCTCATATGGAATGGAA
GCCGACCTCCCATGGCAATTTTGGATTGTTGGATTACATTGTCAATGAGCCTCCTCCAAAACCTGCCAG
TGGAGTATTCACTGGAGTTTTCAGGATTTTGTGAATAAATGCTTAATAAAGAACCCTGCAGAGAGAGCA
GATCTGAAGCAGCTCATGGTACATGCTTTCATCAAAGATCTGACGCCGAGGAGGTAGACTTCGACAGGCT
GGCTCTGCTCCACCATTGGGCTTAACAGCCAGCACACCAACCCACGCTGCCAGCATC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR206149 protein sequence
Red=Cloning site Green=Tags(s)

MPKKKPTPIQLNPAPDGSVNGTSSAETNLEALQKKLEELDEQQRKLEAFLTQKQKVGELKDDDFEK
 ISELGAGNGGVFKVSHKPSGLVMARKLIHLEIKPAIRNQIIRELQVLHECNSPYIVGFYGFYSDGEIS
 ICMEHMDGGSLDQVLKKAGRIPEQILGKYSIAVIKGLTYLREKHKIMHRDVKPSNILVNSRGEIKLCDFG
 VSGQLIDSMANSFVGRSYMSPERLQGTHYSVQSDIWSMGLSLVEMAVGRYPIPPPDAKELELLFGCHVE
 GDAAETPPRPTGRPLSSYGMSRPPMAIFELLDYIVNEPPPKLPSGVFSLEFQDFVNKCLIKNPAERA
 DLKQLMVHAFIKRSDAEEVDFAGWLCSTIGLNQPSTPTHAAASI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_008927

ORF Size: 1182 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: [NM_008927.4](#)

RefSeq Size: 2387 bp

RefSeq ORF: 1182 bp

Locus ID: 26395

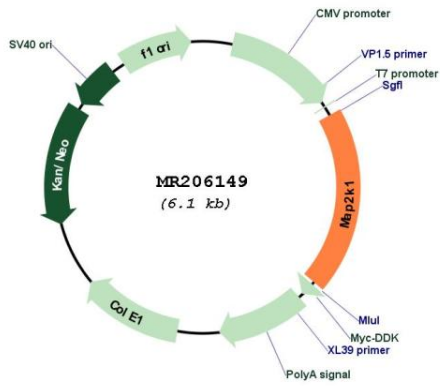
UniProt ID: [P31938](#)

Cytogenetics: 9 34.55 cM

MW: 43.5 kDa

Gene Summary: Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Binding of extracellular ligands such as growth factors, cytokines and hormones to their cell-surface receptors activates RAS and this initiates RAF1 activation. RAF1 then further activates the dual-specificity protein kinases MAP2K1/MEK1 and MAP2K2/MEK2. Both MAP2K1/MEK1 and MAP2K2/MEK2 function specifically in the MAPK/ERK cascade, and catalyze the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in the extracellular signal-regulated kinases MAPK3/ERK1 and MAPK1/ERK2, leading to their activation and further transduction of the signal within the MAPK/ERK cascade. Depending on the cellular context, this pathway mediates diverse biological functions such as cell growth, adhesion, survival and differentiation, predominantly through the regulation of transcription, metabolism and cytoskeletal rearrangements. One target of the MAPK/ERK cascade is peroxisome proliferator-activated receptor gamma (PPARG), a nuclear receptor that promotes differentiation and apoptosis. MAP2K1/MEK1 has been shown to export PPARG from the nucleus. The MAPK/ERK cascade is also involved in the regulation of endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC), as well as in the fragmentation of the Golgi apparatus during mitosis.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR206149