

Product datasheet for **RC218460**

MEK1 (MAP2K1) (NM_002755) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MEK1 (MAP2K1) (NM_002755) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MEK1
Synonyms:	CFC3; MAPKK1; MEK1; MEL; MKK1; PRKMK1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC218460 representing NM_002755 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCAAGAAGAAGCCGACGCCATCCAGCTGAACCCGGCCCCGACGGCTCTGCAGTTAACGGGACCA
GCTCTGCGGAGACCAACTTGAGGCCTTGAGAGGCTGAGAGGCTAGAGCTTATGAGCAGCAGCG
AAAGCGCCTTGAGGCCTTCTTACCCAGAAGCAGAAGGTGGGAGAACTGAAGGATGACGACTTTGAGAAG
ATCAGTGAGCTGGGGCTGGCAATGGCGGTGTGGTGTTCAGGTCTCCACAAGTCTTCTGGCCTGGTCA
TGCCAGAAAGCTAATTCATCTGGAGATCAAACCCGCAATCCGGAACCAGATCATAAGGGAGCTGCAGGT
TCTGCATGAGTCAACTCTCCGTACATCGTGGGCTTCTATGGTGCCTTCTACAGCGATGGCGAGATCAGT
ATCTGCATGGAGCACATGGATGGAGTTCTCTGGATCAAGTCTGAAGAAAGCTGGAAGAATTCCTGAAC
AAATTTTAGGAAAAGTTAGCATTGCTGTAATAAAAGGCCTGACATATCTGAGGGAGAAGCACAAGATCAT
GCACAGAGATGTCAAGCCCTCCAACATCCTAGTCAACTCCCGTGGGGAGATCAAGCTCTGTGACTTTGGG
GTCAGCGGGCAGCTCATCGACTCCATGGCAACTCCTTCGTGGGCACAAGGTCTACATGTGCCAGAAA
GACTCCAGGGGACTCATTACTCTGTGCAGTCAGACATCTGGAGCATGGGACTGTCTCTGGTAGAGATGGC
GGTTGGGAGGTATCCCATCCCTCCTCCAGATGCCAAGGAGCTGGAGCTGATGTTTGGGTGCCAGGTGGAA
GGAGATGCGGCTGAGACCCACCCAGGCCAAGGACCCCGGGAGGCCCTTAGCTCATACGGAATGGACA
GCCGACCTCCCATGGCAATTTTGGATTGTTGGATTACATAGTCAACGAGCCTCCTCCAAAACCTGCCAG
TGGAGTGTTCAGTCTGGAATTTCAAGATTTTGTGAATAAATGCTTAATAAAAAACCCCGAGAGAGAGCA
GATTTGAAGCAACTCATGGTTCATGCTTTTATCAAGAGATCTGATGCTGAGGAAGTGGATTTTGCAGGTT
GGCTCTGCTCCACCATCGGCCTTAACGAGCCAGCACACCAACCCATGCTGCTGGCGTC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC218460 representing NM_002755
Red=Cloning site Green=Tags(s)

MPKKKPTPIQLNPAPDGSVNGTSSAETNLEALQKKLEELDEQQRKLEAFLTQKQKVGELKDDDFEK
 ISELGAGNGGVFKVSHKSSGLVMARKLIHLEIKPAIRNQIIRELQVLHECNSPYIVGFYGAIFYSDGEIS
 ICMEHMDGGLDQVLKAGRIPEQILGKYSIAVIKGLTYLREKHKIMHRDVKPSNILVNSRGEIKLCDFG
 VSGQLIDSMANSFVGRSYMSPERLQGTHYSVQSDIWSMGLSLVEMAVGRYPISPPDAKELELMFGCQVE
 GDAAETPPRPRTPGRPLSSYGMSRPPMAIFELLDYIVNEPPPKLP SGVFSLEFQDFVNKCLIKNPAERA
 DLKQLMVHAFIKRSDAEEVDFAGWLCSTIGLNQPSPTTHAAGV

TRTRPLEQKLISEEDLAANDILDYKDDDDKLV

Chromatograms: https://cdn.origene.com/chromatograms/mk6104_b10.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

ACCN: NM_002755

ORF Size: 1179 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_002755.4](#)

RefSeq Size: 2222 bp

RefSeq ORF: 1182 bp

Locus ID: 5604

UniProt ID: [Q02750](#)

Cytogenetics: 15q22.31

Domains: pkinase, TyrKc, S_TKc

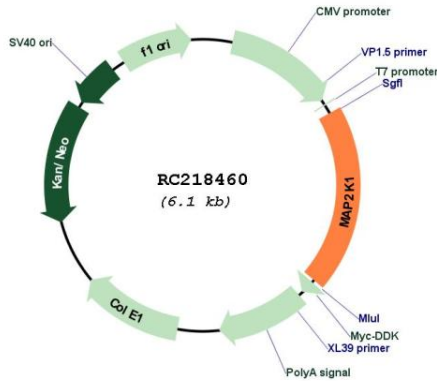
Protein Families: Druggable Genome, Protein Kinase

Protein Pathways: Acute myeloid leukemia, B cell receptor signaling pathway, Bladder cancer, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Dorso-ventral axis formation, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Gap junction, Glioma, GnRH signaling pathway, Insulin signaling pathway, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Melanoma, Natural killer cell mediated cytotoxicity, Neurotrophin signaling pathway, Non-small cell lung cancer, Oocyte meiosis, Pancreatic cancer, Pathways in cancer, Prion diseases, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway, Thyroid cancer, Toll-like receptor signaling pathway, Vascular smooth muscle contraction, VEGF signaling pathway

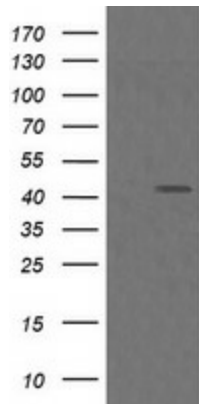
MW: 43.3 kDa

Gene Summary: The protein encoded by this gene is a member of the dual specificity protein kinase family, which acts as a mitogen-activated protein (MAP) kinase kinase. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals. This protein kinase lies upstream of MAP kinases and stimulates the enzymatic activity of MAP kinases upon wide variety of extra- and intracellular signals. As an essential component of MAP kinase signal transduction pathway, this kinase is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development. [provided by RefSeq, Jul 2008]

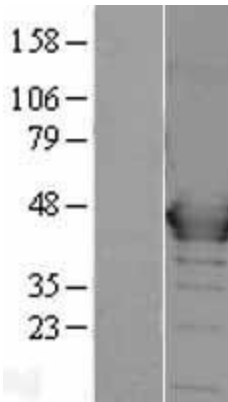
Product images:



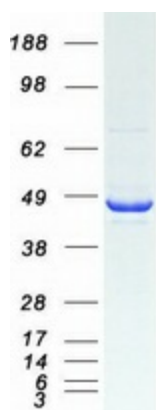
Circular map for RC218460



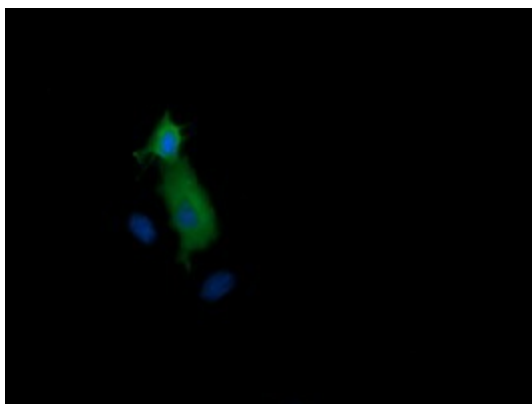
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MAP2K1 (Cat# RC218460, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K1 (Cat# [TA506006]). Positive lysates [LY400974] (100ug) and [LC400974] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400974]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218460 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MAP2K1 protein (Cat# [TP318460]). The protein was produced from HEK293T cells transfected with MAP2K1 cDNA clone (Cat# RC218460) using MegaTran 2.0 (Cat# [TT210002]).



Anti-MAP2K1 mouse monoclonal antibody ([TA506006]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY MAP2K1 (RC218460).