

Product datasheet for **RC201827**

MEK2 (MAP2K2) (NM_030662) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MEK2 (MAP2K2) (NM_030662) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MEK2
Synonyms:	CFC4; MAPKK2; MEK2; MKK2; PRKMK2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201827 representing NM_030662 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCTGGCCCGGAGGAAGCCGGTGCTGCCGGCGCTCACCATCAACCCTACCATCGCCGAGGGCCCATCCC
CTACCAGCGAGGGCGCCTCCGAGGCAAACCTGGTGGACCTGCAGAAGAAGCTGGAGGAGCTGGAACCTGA
CGAGCAGCAGAAGAAGCGGCTGGAAGCCTTCTCACCCAGAAAGCCAAGGTCGGCGAACTCAAAGACGAT
GACTTCGAAAGGATCTCAGAGCTGGGCGCGGGCAACGGCGGGTGGTACCAAAGTCCAGCACAGACCCT
CGGGCCTCATCATGGCCAGGAAGCTGATCCACCTTGAGATCAAGCCGGCCATCCGGAACCAGATCATCCG
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GGATTCGCGAGGAGATCCTGGGGAAGTCAGCATCGCGGTTCTCCGGGGCTTGGCGTACCTCCGAGAGAA
GCACCAGATCATGCACCGAGATGTGAAGCCCTCCAACATCCTCGTGAACCTAGAGGGGAGATCAAGCTG
TGTGACTTCGGGGTGAGCGGCCAGCTCATAGACTCCATGGCCAACTCCTTCGTGGGCACGCGCTCCTACA
TGGCTCCGGAGCGGTTGCAGGGCACACATTACTCGGTGCAGTCGGACATCTGGAGCATGGGCTGTCCCT
GGTGGAGCTGGCCGTGGAAGGTACCCCATCCCCCGCCGACGCCAAAGAGCTGGAGGCCATCTTTGGC
CGGCCCCGTGGTCAGGGGAAGAAGGAGAGCCTCACAGCATCTCGCCTCGGCCGAGGCCCGCCGGCGGCC
CCGTACGCGGTACGCGGATGGATAGCCGGCTGCCATGGCCATCTTTGAACTCCTGGACTATATTGTGAA
CGAGCCACCTCCTAAGCTGCCAACGGTGTGTTACCCCCGACTTCCAGGAGTTGTCAATAAATGCCTC
ATCAAGAACCAGCGGAGCGGGCGGACCTGAAGATGCTCACAACCACACCTTCATCAAGCGGTCCGAGG
TGAAGAAGTGGATTTGCCGGCTGTTGTGTAACCCTGCGGTGAACAGCCCGGCACACCCACGCG
CACCGCCGTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201827 representing NM_030662
 Red=Cloning site Green=Tags(s)

MLARRKPVLPALTINPTIAEGPSPTSEGASEANLVDLQKKLEELDEQQKKRLEAFLTQKAKVGELKDD
 DFERISELGAGNGGVVTKVQHRPSGLIMARKLIHLEIKPAIRNQIIRELQVLHECNSPYIVGFYGAIFYSD
 GEISICMEHMDGGSLDQVLKEAKRIPEEILGKVSIAVLRGLAYLREKHQIMHRDVKPSNILVNSRGEIKL
 CDFGVSGQLIDSMANSFVGRSYMAPERLQGTHYSVQSDIWSMGLSLVELAVGRYPISPPDAKELEAIFG
 RPVVDGEEGEPHSISPRPRPPGRPVSGHGMDSRPAMAIIFELLDYIVNEPPPKLPNGVFTPDFQEFVNKCL
 IKNPAERADLKMLTNHTFIKRSEVEEVDFAGWLCKTLRLNQPGTPTRTAV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg2482_f03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_030662

ORF Size: 1200 bp

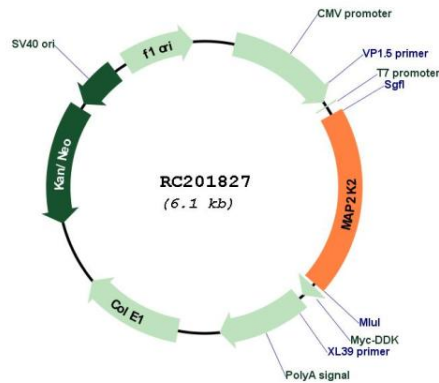
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

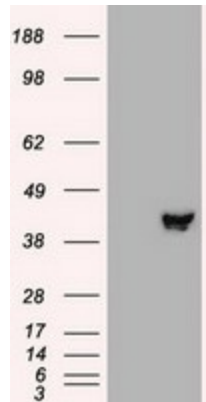
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	<u>NM_030662.2</u> , <u>NP_109587.1</u>
RefSeq Size:	1759 bp
RefSeq ORF:	1203 bp
Locus ID:	5605
UniProt ID:	<u>P36507</u>
Cytogenetics:	19p13.3
Domains:	pkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Acute myeloid leukemia, B cell receptor signaling pathway, Bladder cancer, Chronic myeloid leukemia, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, 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, Pathways in cancer, Prion diseases, 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:	44.2 kDa
Gene Summary:	<p>The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. This kinase is known to play a critical role in mitogen growth factor signal transduction. It phosphorylates and thus activates MAPK1/ERK2 and MAPK2/ERK3. The activation of this kinase itself is dependent on the Ser/Thr phosphorylation by MAP kinase kinase kinases. Mutations in this gene cause cardiofaciocutaneous syndrome (CFC syndrome), a disease characterized by heart defects, cognitive disability, and distinctive facial features similar to those found in Noonan syndrome. The inhibition or degradation of this kinase is also found to be involved in the pathogenesis of Yersinia and anthrax. A pseudogene, which is located on chromosome 7, has been identified for this gene. [provided by RefSeq, Jul 2008]</p>

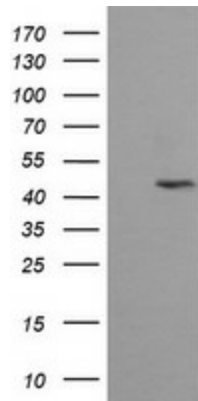
Product images:



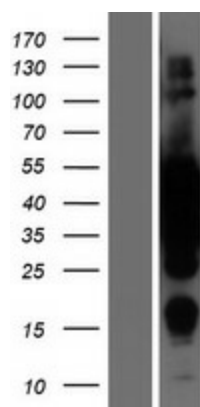
Circular map for RC201827



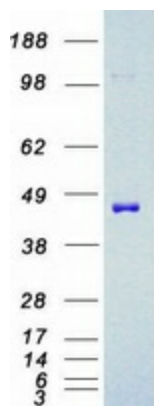
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MAP2K2 (Cat# RC201827, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K2 (Cat# [TA500471]). Positive lysates [LY403069] (100ug) and [LC403069] (20ug) can be purchased separately from OriGene.



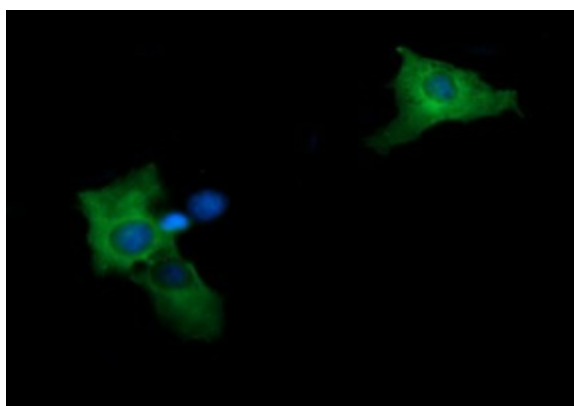
HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY MAP2K2 (RC201827, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K2 ([TA505680]). Positive lysates [LY403069] (100ug) and [LC403069] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403069]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201827 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MAP2K2 protein (Cat# [TP301827]). The protein was produced from HEK293T cells transfected with MAP2K2 cDNA clone (Cat# RC201827) using MegaTran 2.0 (Cat# [TT210002]).



Anti-MAP2K2 mouse monoclonal antibody ([TA505680]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY MAP2K2 (RC201827).