

## 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:	MAP2K2
Synonyms:	CFC4; MAPKK2; MEK2; MKK2; PRKMK2
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC201827 representing NM_030662 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
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ATGCTGGCCCGGAGGAAGCCGGTCTGCCGGCGCTCACCATCAACCCTACCATCGCCGAGGGCCATCCC  
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CGAGCTGCAGGTCTGCACGAATGCAACTCGCCGTACATCGTGGGCTTCTACGGGGCCTTCTACAGTGAC  
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CACCGCCGTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
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**Protein Sequence:** >RC201827 representing NM\_030662  
 Red=Cloning site Green=Tags(s)

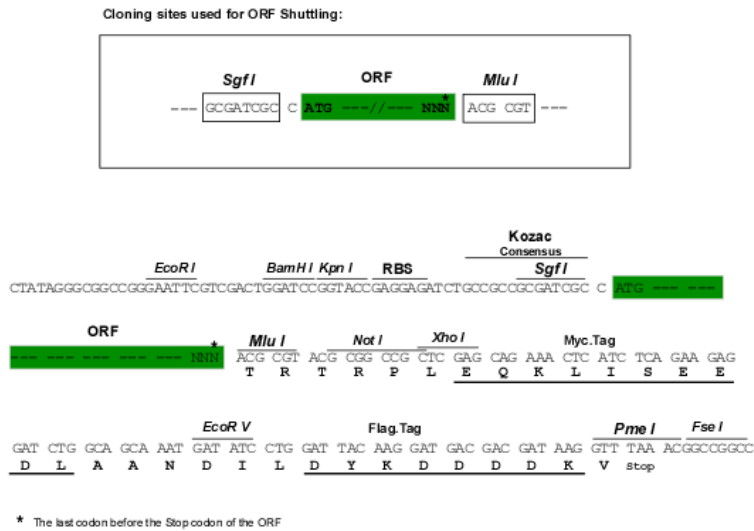
MLARRKPVLPAL TINPTIAEGPSPTSEGASEANLVDLQKKLEELDEQQKRLEAFLTQKAKVGELKDD  
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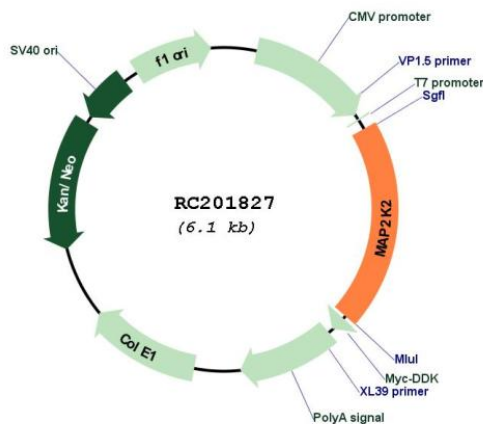
**Chromatograms:** [https://cdn.origene.com/chromatograms/mg2482\\_f03.zip](https://cdn.origene.com/chromatograms/mg2482_f03.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



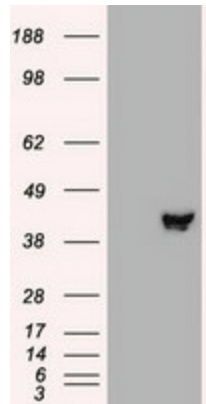
**Plasmid Map:**



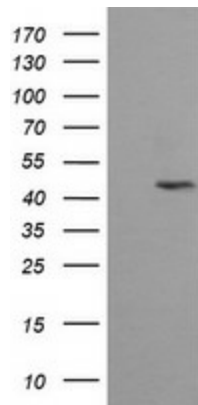
ACCN:	NM_030662
ORF Size:	1200 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a>
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"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
RefSeq:	<a href="#">NM_030662.2</a> , <a href="#">NP_109587.1</a>
RefSeq Size:	1759 bp
RefSeq ORF:	1203 bp
Locus ID:	5605
UniProt ID:	<a href="#">P36507</a>
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:**

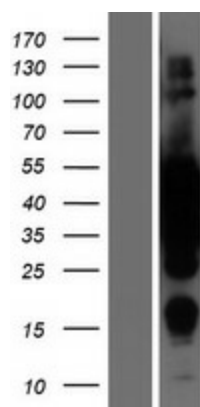
The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. This kinase is known to play a critical role in mitogen growth factor signal transduction. It phosphorylates and thus activates MAPK1/ERK2 and MAPK2/ERK3. The activation of this kinase 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]

**Product images:**


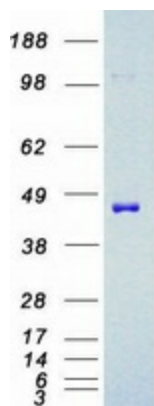
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MAP2K2 (Cat# RC201827, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K2 (Cat# [TA500471]). Positive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



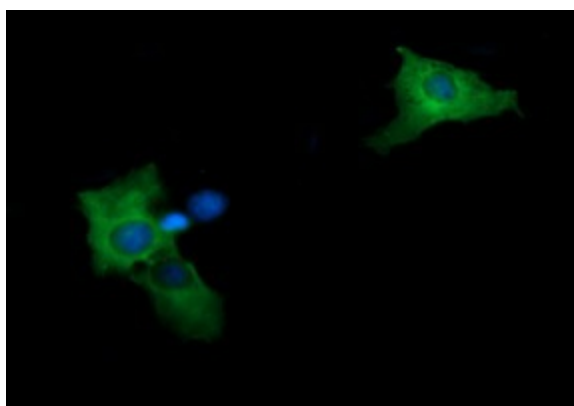
HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY MAP2K2 (RC201827, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K2 ([TA505680]). Positive lysates [LY403069] (100ug)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