

## Product datasheet for **RC206051**

### MEK4 (MAP2K4) (NM\_003010) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MEK4 (MAP2K4) (NM_003010) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MEK4
Synonyms:	JNKK; JNKK1; MAPKK4; MEK4; MKK4; PRKMK4; SAPKK-1; SAPKK1; SEK1; SERK1; SKK1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC206051 representing NM_003010 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGGCTCCGAGCCGAGCGGCGGGCGGCTCCGGGGCGGCCGGCAGCGGCACCCCGGCCCG  
TAGGGTCCCCGGCGCCAGGCCACCCGGCCGTGAGCAGCATGCAGGGTAAACGCAAAGCACTGAAGTTGAA  
TTTTGCAAATCCACCTTTCAAATCTACAGCAAGGTTTACTCTGAATCCCAATCTACAGGAGTTCAAAC  
CCACACATAGAGAGACTGAGAACACACAGCATTGAGTCATCAGGAAAAGTGAAGATCTCCCTGAACAAC  
ACTGGGATTTCACTGCAGAGGACTTGAAAGACCTTGGAGAAATTGGACGAGGAGCTTATGGTTCTGTCAA  
CAAAATGGTCCACAAACCAAGTGGGCAAATAATGGCAGTAAAAGAATTCGGTCAACAGTGGATGAAAA  
GAACAAAAACAATCTTATGGATTTGGATGTAGTAATGCGGAGTAGTATTGCCATACATTGTTCACT  
TTTATGGTGCCTCTCAGAGAGGGTACTGTTGGATCTGTATGGAACATGTCTACCTCGTTTGATAA  
GTTTTACAAATATGTATATAGTGTATTAGATGATGTTATCCAGAAGAAATTTAGGCAAAATCACTTTA  
GCAACTGTGAAAGCACTAAACCACTTAAAAGAAAATTGAAAATTTTACAGAGATATCAAACCTTCCA  
ATATTCTTCTGGACAGAAGTGAAATATTAAGCTCTGTGACTTCGGCATCAGTGGACAGCTTGTGGACTC  
TATTGCCAAGACAAGAGATGCTGGCTGTAGGCCATACATGGCACCTGAAAGAATAGACCAAGCGCATCA  
CGACAAGGATATGATGTCCGCTCTGATGTCTGGAGTTTGGGATCACATTGTATGAGTTGGCCACAGGCC  
GATTTCCCTTATCAAAGTGAATAGTGTATTTGATCAACTAACACAAGTGTGAAAGGAGATCCTCCGCA  
GCTGAGTAATTCTGAGGAAAGGGAATCTCCCGAGTTTCATCAACTTTGTCAACTTGTGCCTTACGAAG  
GATGAATCCAAAAGGCCAAAGTATAAAGAGCTTCTGAAACATCCCTTTATTTTGTATGAAGAACGTG  
CCGTTGAGGTCGCATGCTATGTTTGAAAATCCTGGATCAAATGCCAGCTACTCCAGCTCTCCCATGTA  
TGTCGAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC206051 representing NM\_003010  
Red=Cloning site Green=Tags(s)

MAAPSPSGGGGSGGGGRSGTGPVGVGSPAPGHPAVSSMQGKRKALKLNFNPPFKSTARFTLNPNPTGVQN  
 PHIERLRTHSIESSGKLKISPEQHWDFTAEDLKDLEIGRGAYGSVNKMVHKPSGQIMAVKRIRSTVDEK  
 EQKQLLMDLDVVMRSSDCPYIVQFYGALFREGDCWICMELMSTSFDFKYVYVSVLDDVIPEEILGKITL  
 ATVKALNHLKENLKIHRDIKPSNILLDRSGNIKLCDFGISGQLVDSIAKTRDAGCRPYMAPERIDPSAS  
 RQGYDVRSDVWSLGITLYELATGRFPYPKWNSVFDQLTQVVKGDPPQLSNSEEREFSPSFINFVNLCLTK  
 DESKRPKYKELLKHPFILMYEERAVEVACYVCKILDQMPATPSSPMYVD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mg2506\\_g09.zip](https://cdn.origene.com/chromatograms/mg2506_g09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_003010

**ORF Size:** 1197 bp

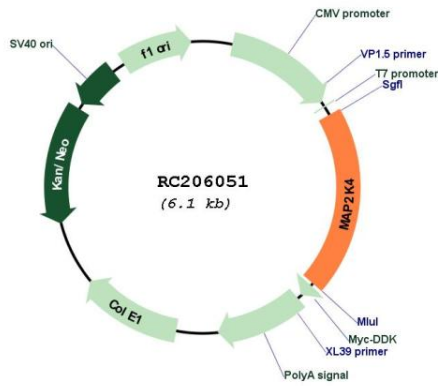
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone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

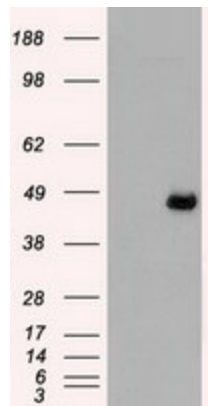
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

<b>Reconstitution Method:</b>	<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>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_003010.4</a>
<b>RefSeq Size:</b>	3752 bp
<b>RefSeq ORF:</b>	1200 bp
<b>Locus ID:</b>	6416
<b>UniProt ID:</b>	<a href="#">P45985</a>
<b>Cytogenetics:</b>	17p12
<b>Domains:</b>	pkinase, TyrKc, S_TKc
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Epithelial cell signaling in Helicobacter pylori infection, ErbB signaling pathway, Fc epsilon RI signaling pathway, GnRH signaling pathway, MAPK signaling pathway, Toll-like receptor signaling pathway
<b>MW:</b>	44.1 kDa
<b>Gene Summary:</b>	This gene encodes a member of the mitogen-activated protein kinase (MAPK) family. Members of this family act as an integration point for multiple biochemical signals and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation, and development. They form a three-tiered signaling module composed of MAPKKKs, MAPKKs, and MAPKs. This protein is phosphorylated at serine and threonine residues by MAPKKKs and subsequently phosphorylates downstream MAPK targets at threonine and tyrosine residues. A similar protein in mouse has been reported to play a role in liver organogenesis. A pseudogene of this gene is located on the long arm of chromosome X. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2013]

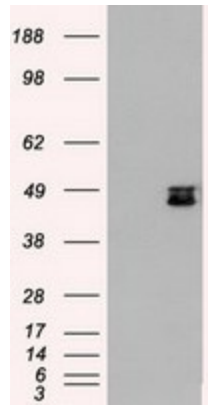
Product images:



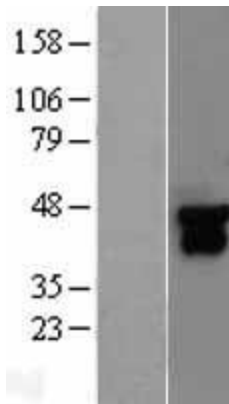
Circular map for RC206051



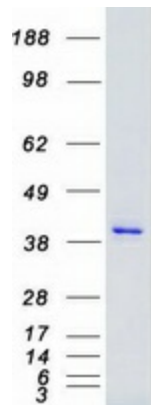
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MAP2K4 (Cat# RC206051, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K4 (Cat# [TA500403]). Positive lysates [LY401058] (100ug) and [LC401058] (20ug) can be purchased separately from OriGene.



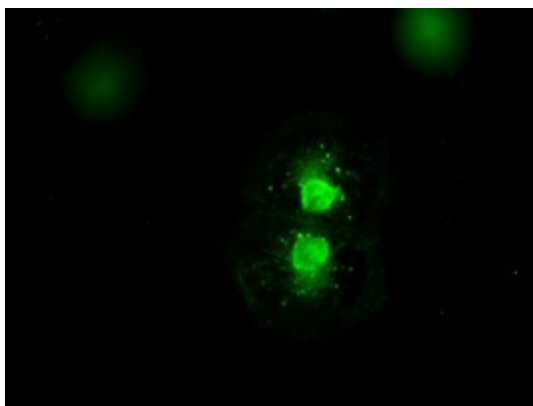
HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY MAP2K4 (RC206051, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAP2K4 ([TA500411]). Positive lysates [LY401058] (100ug) and [LC401058] (20ug) can be purchased separately from OriGene.



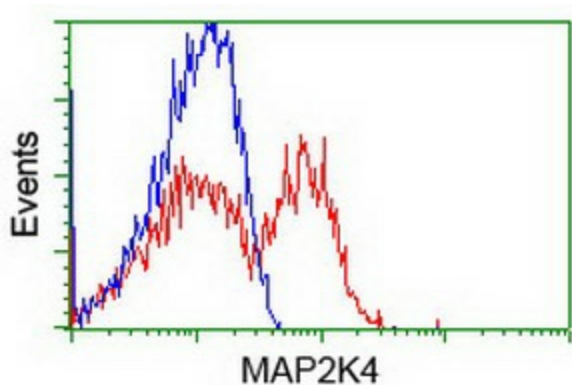
Western blot validation of overexpression lysate (Cat# [LY401058]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206051 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MAP2K4 protein (Cat# [TP306051]). The protein was produced from HEK293T cells transfected with MAP2K4 cDNA clone (Cat# RC206051) using MegaTran 2.0 (Cat# [TT210002]).



Anti-MAP2K4 mouse monoclonal antibody ([TA500411]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY MAP2K4 (RC206051).



HEK293T cells transfected with either RC206051 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-MAP2K4 antibody ([TA500411]), and then analyzed by flow cytometry.