

## Product datasheet for **RC240183**

### MAP3K4 (NM\_001301072) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MAP3K4 (NM_001301072) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MAP3K4
Synonyms:	MAPKKK4; MEKK 4; MEKK4; MTK1; PRO0412
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC240183 representing NM_001301072 Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**GCGATCGCC**

ATGAGAGAAGCCGCTGCCGCGTGGTCCCTCCTCCGCTTTGCCGTACGCCTGCCGCCCATGGAGG  
AGCCGCCGCCACCGCCGCCGCCACCACCGCCACCGGAACCCGAGACCGAGTCAAGAACCCGAGTCTGCT  
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ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC240183 representing NM\_001301072  
 Red=Cloning site Green=Tags(s)

MREAAAALVPPPAFAVTPAAAMEEPPPPPPPPPEPESEPECCLAARQEGTLGDSACKSPESDLED  
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 KQEKKIRAALRTTERDHKKNVQCSFMLDSVGGSLPKKSIIPDVLNKPYSLGCSSNAKLPVSVPMPIARPA  
 RQTSRTDCPADRLKFFETLRLLLKLTSSVSKKDRQEQENTSGFVLRNSNELIWLQLQAWHAGRTINDQ  
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 YFGVELHREEMYIFMEYCDTEGLLEEVSRLLGLQEHVIRLYSKQITIAINVLHEHGIVHRDIKGANIFLTSS  
 GLIKLGDGFCVSKLNNAQTMPGVEVNSTLGTAAAYMAPEVITRAKGEHGAAADIWSLGCVVEMVTGKRP  
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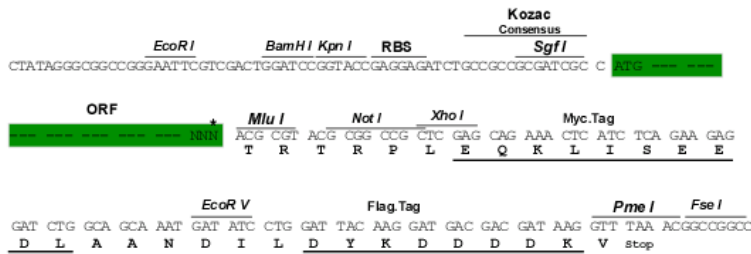
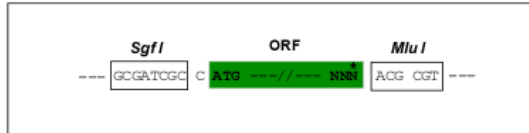
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

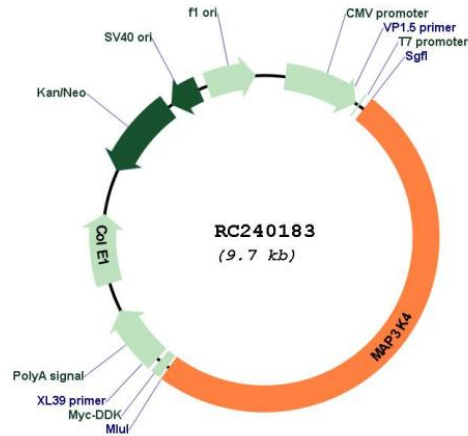
SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**Plasmid Map:**


**ACCN:** NM\_001301072

**ORF Size:** 4812 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\\_001301072.1](#), [NP\\_001288001.1](#)

RefSeq Size:	5552 bp
RefSeq ORF:	4815 bp
Locus ID:	4216
UniProt ID:	<a href="#">Q9Y6R4</a>
Cytogenetics:	6q26
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	GnRH signaling pathway, MAPK signaling pathway
MW:	181.7 kDa

**Gene Summary:** The central core of each mitogen-activated protein kinase (MAPK) pathway is a conserved cascade of 3 protein kinases: an activated MAPK kinase kinase (MAPKKK) phosphorylates and activates a specific MAPK kinase (MAPKK), which then activates a specific MAPK. While the ERK MAPKs are activated by mitogenic stimulation, the CSBP2 and JNK MAPKs are activated by environmental stresses such as osmotic shock, UV irradiation, wound stress, and inflammatory factors. This gene encodes a MAPKKK, the MEKK4 protein, also called MTK1. This protein contains a protein kinase catalytic domain at the C terminus. The N-terminal nonkinase domain may contain a regulatory domain. Expression of MEKK4 in mammalian cells activated the CSBP2 and JNK MAPK pathways, but not the ERK pathway. In vitro kinase studies indicated that recombinant MEKK4 can specifically phosphorylate and activate PRKMK6 and SERK1, MAPKKs that activate CSBP2 and JNK, respectively but cannot phosphorylate PRKMK1, an MAPKK that activates ERKs. MEKK4 is a major mediator of environmental stresses that activate the CSBP2 MAPK pathway, and a minor mediator of the JNK pathway. Several alternatively spliced transcripts encoding distinct isoforms have been described. [provided by RefSeq, May 2014]