

## Product datasheet for **SC109428**

### MAP3K4 (NM\_006724) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MAP3K4 (NM_006724) Human Untagged Clone
Tag:	Tag Free
Symbol:	MAP3K4
Synonyms:	MAPKKK4; MEKK 4; MEKK4; MTK1; PRO0412
Mammalian Cell Selection:	Neomycin
Vector:	<u>PCMV6-Neo</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_006724, the custom clone sequence may differ by one or more nucleotides

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ATGAGAGAAGCCGCTGCCGCGCTGGTCCCTCCTCCCGCCTTTGCCGTACGCCTGCCGCCCATGGAGG
AGCCGCCGCCACCGCCGCGCCGCCACCGCCACCGGAACCCGAGACCGAGTCAGAACCCGAGTGCTG
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GCATGTCAACCAACATCAGAGGAATAATGTGGGGAGGCCAGCCAGTCGGTCTAATTTGAAAGAAAAAT
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AAGCAGGAGAAAAAGATCCGAGCAGCTTTAGAACACAGAGCGTGATCATAAAAAAATGTACAGTGCT
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GGGGTTAAGAAAGTTAATTTTAAGACTTCACAAGCTAATGGATGGTTCCTTGCAAAGGGCACGTATAGCA
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TGAAAGATTAAGCCCTGAAGGAAAGGACTTCTTTCTCACTGCCTTGAAGTGAACCAAGATGAGATGG
ACCGCCAGCCAGCTCCTCGACCATTCGTTTGTCAAGGTTTGCACAGATGAAGAATGA

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**Restriction Sites:** NotI-NotI  
**ACCN:** NM\_006724  
**Insert Size:** 6450 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

**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\\_006724.2](#), [NP\\_006715.2](#)

**RefSeq Size:** 5351 bp

**RefSeq ORF:** 4677 bp

**Locus ID:** 4216

**UniProt ID:** [Q9Y6R4](#)

**Cytogenetics:** 6q26

**Protein Families:** Druggable Genome, Protein Kinase

**Protein Pathways:** GnRH signaling pathway, MAPK signaling pathway

**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]

Transcript Variant: This variant (2) lacks an alternate in-frame exon compared to variant 1, resulting in a shorter protein (isoform b) compared to isoform a.