

Product datasheet for **RR204033**

Mapkapk3 (NM_001012127) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Mapkapk3 (NM_001012127) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Mapkapk3
Synonyms: MAPKAP-K3; MK-3
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR204033 representing NM_001012127
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGATGGCGAGACGGCGGGGAGAAGGGGAGTCTTGTGCCCCAGCCAGGTGCGCTCGGTGCGCCCGCT
TGGGCGGTGCTCCGGCCCAAGTGTGCGACGGGAACCAAGAAGTACGCGGTGACTGATGACTACCGATT
GTCCAAGCAAGTCTGGGTCTGGGTGTGAACGGCAAGGTACTAGAGTGCTACCATCGGCGCTCTGGGCAG
AAGTGTGCCTTGAAGCTCCTGTATGACAGCCCCAAGGCCCGCAGGAGGTGGACCACCACTGGCAGGCCT
CAGGCGGCCCCACATTGTGCGCATCCTGGACGTGTACGAGAACATGCATCACGGCAAGCGCTGCCTCCT
CATCGTCATGGAATGCATGGAGGGTGGTGGAGCTGTTTCAGCAGGATTACAGGAGCGCGGTGATCAGGCTTTC
ACTGAGAGAGAGGCCGCAGAGATAATGCGGGACATTGGCACTGCCATCCAGTTCTTGACAGCCAGAACA
TTGCCACCGAGATGTCAAGCCTGAAAACCTACTCTATACATCCAAGGAGAAGGATGCTGTACTTAACT
CACTGATTTTGGCTTTGCCAAGGAAACCACCAAAATGCCCTCCAGACACCCTGTTACTACTCCCTATTAT
GTGGCTCCTGAGGTCTGGGTCCAGAGAAGTATGACAAGTCGTGCGATATGTGGTCCCTGGGGTTCATCA
TGTACATCCTTTTGTGTGGATTCCACCCTTCTACTCCAACCGGGCCAGGCCATCTCCAGGAATGAA
GAGAAGGATTTCGCTTGGGCCAGTATGGCTTCCCTAAACCTGAATGGGCAGACGTCTCTGAGGATGCCAAG
CAGCTAATCCGTCTGCTCCTGAAGACAGATCCCACCGAGAGGCTGACCATCATGCAGTTTATGAACCATC
CTTGGATCAATCAATCGATGGAGGTCCCACAGACCCCACTCCATACAGCCCGAGTCTGGAGGAAGACAA
AGACCACTGGGATGACGTCAAGGAAGAGATGACCAGTGCCTGGCCACGATGAGGGTAGACTACGACCAG
GTGAAAATCAAGGACCTGAAGACCTCTAACAACCGACTCCTCAACAAGCGGAGGAAAAAGCAGGGGGCA
GCTCCTCAGCCTACCGGATGCAACAACCG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RR204033 representing NM_001012127
 Red=Cloning site Green=Tags(s)

MDGETAGEKGS LVPQPGALGAPALGGAPAGVRRPKKYAVTDDYQLSKQVLGLGVNGKVL ECYHRRSGQ
 KCALKLLYDSPKARQEV DHHWQASGGPHIVRILDVYENMHHGKRCLLIVMECEGGELFSRIQERGDQAF
 TEREAAEIMRDIGTAIQFLHSQNI AHRDVKPENLLYTSKEKDAVLKLTDFGFAKET TQNALQTPCYTPYY
 VAPEVLGPEKYDKSCDMWSLGVIMYILLCGFPFYSNTGQAI SPGMKRRIRL GQYGFKPEWADVSEDAK
 QLIRLLKTDPTERLTI MQFMNHPWINQSM EVPQTP LHTARVLEEDKDHWDVKEEMTSALATMRVDYDQ
 VKIKDLKTSNNRLLNKRKKQGGSSSASPGCNNQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

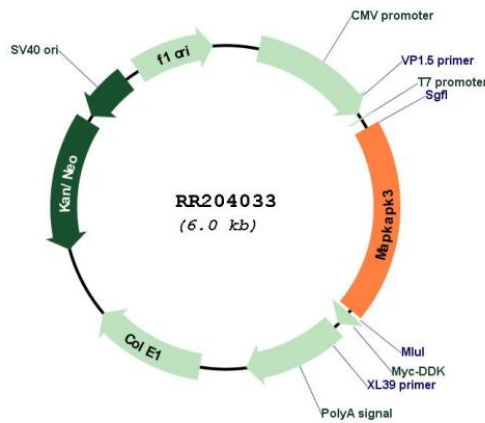
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001012127

ORF Size:	1152 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.
RefSeq:	NM_001012127.1 , NP_001012127.1
RefSeq Size:	2634 bp
RefSeq ORF:	1155 bp
Locus ID:	315994
UniProt ID:	Q66H84
Cytogenetics:	8q32
MW:	43.2 kDa

Gene Summary:

Stress-activated serine/threonine-protein kinase involved in cytokines production, endocytosis, cell migration, chromatin remodeling and transcriptional regulation. Following stress, it is phosphorylated and activated by MAP kinase p38-alpha/MAPK14, leading to phosphorylation of substrates. Phosphorylates serine in the peptide sequence, Hyd-X-R-X(2)-S, where Hyd is a large hydrophobic residue. MAPKAPK2 and MAPKAPK3, share the same function and substrate specificity, but MAPKAPK3 kinase activity and level in protein expression are lower compared to MAPKAPK2. Phosphorylates HSP27/HSPB1, KRT18, KRT20, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to dissociate HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impair their chaperone activities and ability to protect against oxidative stress effectively. Involved in inflammatory response by regulating tumor necrosis factor (TNF) and IL6 production post-transcriptionally: acts by phosphorylating AU-rich elements (AREs)-binding proteins, such as TTP/ZFP36, leading to regulate the stability and translation of TNF and IL6 mRNAs. Phosphorylation of TTP/ZFP36, a major post-transcriptional regulator of TNF, promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity leading to inhibition of dependent degradation of ARE-containing transcript. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3. Also acts as a modulator of Polycomb-mediated repression (By similarity).[UniProtKB/Swiss-Prot Function]