

Product datasheet for **RN204033**

Mapkapk3 (NM_001012127) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mapkapk3 (NM_001012127) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Mapkapk3
Synonyms:	MAPKAP-K3; MK-3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>RN204033 representing NM_001012127 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCTGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGC**C

ATGGATGGCGAGACGGCGGGGAGAAGGGGAGTCTTGCCCCAGCCAGGTGCGCTCGGTGCGCCCGCT
 TGGGCGGTGCTCCGGCCCCAGGTGTGCGACGGGAACCAAGAAGTACGCGGTGACTGACTACCAAGT
 GTCCAAGCAAGTCTGGGTCTGGGTGTGAACGGCAAGGTACTAGAGTGTACCATCGGCGCTCTGGGCG
 AAGTGTGCCTTGAAGCTCTGTATGACAGCCCCAAGGCCGCGAGGTTGGACCACTGGCAGGCCT
 CAGGCGGCCCCACATTGTGCGCATCTGGACGTGTACGAGAATGCATCACGCAAGCGCTGCCTCCT
 CATCGTCATGGAATGCATGGAGGTTGGTGAAGTGTTCAGCAGGATTCAGGAGCGCGGTGATCAGGCTTTC
 ACTGAGAGAGAGGCCGAGAGATAATGCGGGACATTGGCACTGCCATCCAGTTCTTGACAGCCAGAAACA
 TTGCCCCAGAGATGTCAAGCCTGAAAACCTACTCTATACATCCAAGGAGAAGGATGCTGTACTTAACT
 CACTGATTTTGGCTTTGCCAAGGAAACCAACCAAAATGCCCTCCAGACACCCTGTTACACTCCCTATTAT
 GTGGCTCCTGAGGTCTGGGTCCAGAGAAGTATGACAAGTCGTGCGATATGTGGTCCCTGGGGGTCACTA
 TGTACATCCTTTTGTGTGGATTCCACCCCTTCTACTCCAACACGGGCCAGGCCATCTCTCCAGGAATGAA
 GAGAAGGATTCGCTTGGGCCAGTATGGCTTCCCTAAACCTGAATGGGCAGACGCTCTGAGGATGCCAAG
 CAGCTAATCCGTCTGCTCCTGAAGACAGATCCCACCGAGAGGCTGACCATCATGCAGTTTATGAACCATC
 CTTGGATCAATCAATCGATGGAGTCCCACAGACCCCACTCCATACAGCCGAGTGTCTGGAGGAAGACAA
 AGACCACTGGGATGACGTCAAGGAAGAGATGACCAAGTGCCTGGCCACGATGAGGGTAGACTACGACCAG
 GTGAAATCAAGGACCTGAAGACCTCTAACAACCGACTCCTCAACAAGCGGAGGAAAAAGCAGGGGGCA
 GCTCCTCAGCCTCACCGGATGCAACAACCAAGTAA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA


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Restriction Sites:	Sgfl-Mlul
ACCN:	NM_001012127
Insert Size:	1155 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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:	<u>NM_001012127.1, NP_001012127.1</u>
RefSeq Size:	2634 bp
RefSeq ORF:	1155 bp
Locus ID:	315994
UniProt ID:	<u>Q66H84</u>
Cytogenetics:	8q32

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]