

Product datasheet for **MG205607**

Mapk11 (NM_011161) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mapk11 (NM_011161) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Mapk11
Synonyms:	p38-2; P38b; p38beta; p38beta2; Prkm11; Sapk2; Sapk2b
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG205607 representing NM_011161 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCGGGTCCGCGCGGGATTCTACCGCAAGAGCTGAACAAAACAGTATGGGAGGTGCCGACGCGC
TGCAGGGCTACGCCGGTGGGCTCCGGCGCTACGGCTCAGTCTGCTCGGCTACGACGCGGGCTGCG
CCAGAAGGTGGCTGTAAGAAGCTGTCTCGCCCTTCCAATCGCTGATCCACGCGAGGAGACATACCGT
GAGCTGCGCTACTCAAGCACCTGAAGCACGAGAACGTCATAGGACTTTGGACGCTTCCACGCCGCCA
CATCCATCGAGGATTTCAAGCAAGTGTACCTCGTGACGACCTGATGGGCGCCGACCTGAATAACATCGT
CAAGTGTCAAGCCCTGAGCGATGAGCATGTTCAATTCCTTGTCTACCAGCTGCTGCGTGGGCTGAAGTAT
ATCCACTCGGCGGGCATCATCCACCGGGACCTGAAGCCAGCAATGTAGCGGTGAACGAGGACTGCGAGC
TGAGGATCCTGGACTTTGGGCTAGCACGCCAGGCTGATGAGGAGATGACCGGATATGTGGCCACACGGTG
GTACCGGGCGCCAGAGGTCATGCTAACTGGATGCACTACAACCAGACAGTGGACATCTGGTCTGTGGGC
TGCATCATGGTGAAGTCTGCAAGGAAAGGCCCTCTTCTGGAACGACTACATCGACCAGCTGAAGC
GAATCATGGAGGTGGTGGCACGCCAGTCTCTGAAGTTCTGGCAAAGATATCCTCGGAGCATGCCCGGAC
ATACATCCAGTCTCTGCCTCCATGCCCCAGAAGACCTCAGCAGTGTCTTCCATGGAGCCAACCCCTTG
GCCATACCTCTTTGGAAGAATGCTGGTACTAGACAGCGACCAGAGGGTCAGTGGCGCCGAGCCCTTG
CCCACGCATACTCAGCCAGTACCATGACCTGACGATGAGCCAGAGGCAGAGCCCTATGATGAAAGTGT
TGAGGCCAAGGAGCGCACGCTGGAGGAGTGAAGGAGCTTACTTACCAAGAAGTCTTAGCTTCAAGCCC
CTGGAACCCTCACAGCTCCCTGGCACCCATGAAATTGAGCAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >MG205607 representing NM_011161
 Red=Cloning site Green=Tags(s)

MSGPRAGFYRQELNKTVWEVPQRLQGLRPVGSAGYGSVCAYDARLRQKVAVKKLSRPFQSLIHARRTYR
 ELRLLKHLKHENVIIGLLDVFTPATSIEDFSEVYLVTLLMGADLNNIVKCQALSDEHVQFLVYQLLRGLKY
 IHSAGIIHRDLKPSNVAVNEDCELRIIDFGLARQADEMTGYVATRWYRAPEVMLNWMHYNQTVDIWSVG
 CIMAELLQGKALFPGNDYIDQLKRIMEVVGTPSPEVLAKISSEHARTYIQSLPPMPQKDLSSVFHGANPL
 AIDLFGFMLVLDSDQRVSAEALAHAYFSQYHDPDDEPEAEPEYDESVEAKERTLEEWKELTYQEVLSFKP
 LEPSQLPGTHEIEQ

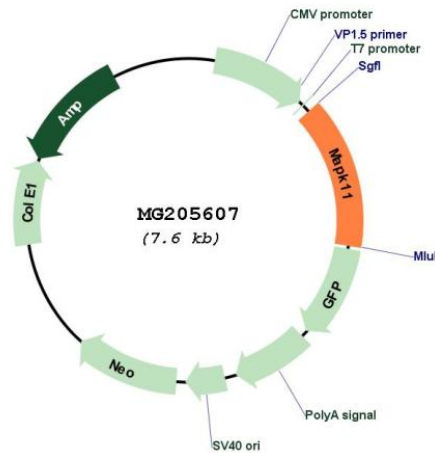
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_011161

ORF Size:	1092 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_011161.4 , NP_035291.3
RefSeq Size:	2432 bp
RefSeq ORF:	1095 bp
Locus ID:	19094
UniProt ID:	Q9WU11
Cytogenetics:	15 E3

Gene Summary:

Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK11 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as proinflammatory cytokines or physical stress leading to direct activation of transcription factors. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. MAPK11 functions are mostly redundant with those of MAPK14. Some of the targets are downstream kinases which are activated through phosphorylation and further phosphorylate additional targets. RPS6KA5/MSK1 and RPS6KA4/MSK2 can directly phosphorylate and activate transcription factors such as CREB1, ATF1, the NF-kappa-B isoform RELA/NFKB3, STAT1 and STAT3, but can also phosphorylate histone H3 and the nucleosomal protein HMGN1. RPS6KA5/MSK1 and RPS6KA4/MSK2 play important roles in the rapid induction of immediate-early genes in response to stress or mitogenic stimuli, either by inducing chromatin remodeling or by recruiting the transcription machinery. On the other hand, two other kinase targets, MAPKAPK2/MK2 and MAPKAPK3/MK3, participate in the control of gene expression mostly at the post-transcriptional level, by phosphorylating ZFP36 (tristetraprolin) and ELAVL1, and by regulating EEF2K, which is important for the elongation of mRNA during translation. MKNK1/MNK1 and MKNK2/MNK2, two other kinases activated by p38 MAPKs, regulate protein synthesis by phosphorylating the initiation factor EIF4E2. In the cytoplasm, the p38 MAPK pathway is an important regulator of protein turnover. For example, CFLAR is an inhibitor of TNF-induced apoptosis whose proteasome-mediated degradation is regulated by p38 MAPK phosphorylation. Ectodomain shedding of transmembrane proteins is regulated by p38 MAPKs as well. In response to inflammatory stimuli, p38 MAPKs phosphorylate the membrane-associated metalloprotease ADAM17. Such phosphorylation is required for ADAM17-mediated ectodomain shedding of TGF-alpha family ligands, which results in the activation of EGFR signaling and cell proliferation. Additional examples of p38 MAPK substrates are the FGFR1. FGFR1 can be translocated from the extracellular space into the cytosol and nucleus of target cells, and regulates processes such as rRNA synthesis and cell growth. FGFR1 translocation requires p38 MAPK activation. In the nucleus, many transcription factors are phosphorylated and activated by p38 MAPKs in response to different stimuli. Classical examples include ATF1, ATF2, ATF6, ELK1, PTPRH, DDIT3, TP53/p53 and MEF2C and MEF2A. The p38 MAPKs are emerging as important modulators of gene expression by regulating chromatin modifiers and remodelers. The promoters of several genes involved in the inflammatory response, such as IL6, IL8 and IL12B, display a p38 MAPK-dependent enrichment of histone H3 phosphorylation on 'Ser-10' (H3S10ph) in LPS-stimulated myeloid cells. This phosphorylation enhances the accessibility of the cryptic NF-kappa-B-binding sites marking promoters for increased NF-kappa-B recruitment.[UniProtKB/Swiss-Prot Function]