

Product datasheet for MC209727

Mapk8 (NM_016700) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mapk8 (NM_016700) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Mapk8
Synonyms:	Al849689; JNK; JNK1; Prkm8; SAPK1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC209727 representing NM_016700 Red=Cloning site Blue=ORF Orange=Stop codon

TTTGTGAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGC**C

ATGAGCAGAAGCAAACGTGACAACAATTTTATAGTGTAGAGATTGGAGATTCTACATTCACAGTCCTAA
 AACGATACCAGAATTTAAAGCCTATAGGCTCAGGAGCTCAAGGAATAGTGTGTCAGCTTATGATGCCAT
 TCTTGAAAGAAATGTTGCAATCAAGAAGCTCAGCCGGCCATTTTCAAGATCAGACCCATGCTAAGCGCGCC
 TACCGAGAACTAGTTCTTATGAAGTGTGTTAATCACAAAAATATAATTGGCCTTTTGAATGTTTTACAC
 CACAGAAATCCCTAGAAGAATTTCAAGATGTTTACATAGTCATGGAGCTCATGGATGCAAATCTTTGCCA
 AGTGATTCAGATGGAGTTAGATCATGAAAGAATGTCCTACCTTCTCTATCAAATGCTGTGTGGAATCAAG
 CACCTTCACTCTGCTGGAATTATTCATCGGGACTTAAAGCCTAGTAATATAGTAGTCAAATCAGACTGCA
 CTTTGAAGATTCTTGATTTTGGACTGGCGAGGACTGCAGGAACGAGTTTATGATGACGCCTTATGTGGT
 GACTCGCTACTACAGAGCACCAGAGGTCAATTCGGCATGGGCTACAAGGAGAACGTGGACTTATGGTCT
 GTGGGGTGCATTATGGGAGAAATGGTTTGCCACAAAATCCTCTTCCAGGAAGGGACTATATTGATCAGT
 GGAATAAAGTTATTGAACAGCTCGGAACACCTTGTCCTGAATTCATGAAGAACTACAACCAACAGTAAG
 GACTTATGTTGAAAACAGGCCTAAATACGCTGGATATAGCTTTGAGAACTGTTCCCGATGTGCTTTTC
 CCAGCTGACTCAGAGCATAACAACTTAAAGCCAGTCAGGCAAGAGATTTGTTATCCAAAATGCTAGTAA
 TAGATGCATCCAAAAGGATCTCCGTAGATGAAGCTCTCCAGCACCATACATCAACGTCTGGTATGATCC
 TTCAGAAGCAGAAGCCCCACCACCAAGATCCCGGACAAGCAGTTAGATGAGAGGGAGCACACAATAGAG
 GAGTGGAAGAACTGATATACAAGGAGGTAAATGGATTTGGAGGAACGAACTAAGAATGGAGTCATAAGAG
 GGCAGCCGTCTCCTTTAGCACAGGTGCAGCA**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA


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Restriction Sites:	Sgfl-Mlul
ACCN:	NM_016700
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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	<u>NM_016700.4, NP_057909.1</u>
RefSeq Size:	5770 bp
RefSeq ORF:	1155 bp
Locus ID:	26419
UniProt ID:	<u>Q91Y86</u>
Cytogenetics:	14 B

Gene Summary:

Serine/threonine-protein kinase involved in various processes such as cell proliferation, differentiation, migration, transformation and programmed cell death. Extracellular stimuli such as proinflammatory cytokines or physical stress stimulate the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. In this cascade, two dual specificity kinases MAP2K4/MKK4 and MAP2K7/MKK7 phosphorylate and activate MAPK8/JNK1. In turn, MAPK8/JNK1 phosphorylates a number of transcription factors, primarily components of AP-1 such as JUN, JDP2 and ATF2 and thus regulates AP-1 transcriptional activity. Phosphorylates the replication licensing factor CDT1, inhibiting the interaction between CDT1 and the histone H4 acetylase HBO1 to replication origins. Loss of this interaction abrogates the acetylation required for replication initiation. Promotes stressed cell apoptosis by phosphorylating key regulatory factors including p53/TP53 and Yes-associated protein YAP1. In T-cells, MAPK8 and MAPK9 are required for polarized differentiation of T-helper cells into Th1 cells. Contributes to the survival of erythroid cells by phosphorylating the antagonist of cell death BAD upon EPO stimulation. Mediates starvation-induced BCL2 phosphorylation, BCL2 dissociation from BECN1, and thus activation of autophagy. Phosphorylates STMN2 and hence regulates microtubule dynamics, controlling neurite elongation in cortical neurons. In the developing brain, through its cytoplasmic activity on STMN2, negatively regulates the rate of exit from multipolar stage and of radial migration from the ventricular zone (By similarity). Phosphorylates several other substrates including heat shock factor protein 4 (HSF4), the deacetylase SIRT1, ELK1, or the E3 ligase ITCH. Phosphorylates the CLOCK-ARNTL/BMAL1 heterodimer and plays a role in the regulation of the circadian clock (PubMed:22441692). Phosphorylates the heat shock transcription factor HSF1, suppressing HSF1-induced transcriptional activity (By similarity). Phosphorylates POU5F1, which results in the inhibition of POU5F1's transcriptional activity and enhances its proteosomal degradation (PubMed:29153991).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longest transcript. Isoforms 1 and 2 are the same length, but differ in a small segment in the central region of the protein.