

## Product datasheet for MR206802

### Mapk8 (NM\_016700) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Mapk8 (NM_016700) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mapk8
Synonyms:	A1849689; JNK; JNK1; Prkm8; SAPK1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR206802 representing NM_016700 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAGCAGAAGCAAACGTGACAACAATTTTTATAGTGTAGAGATTGGAGATTCTACATTCACAGTCCTAA  
AACGATACCAGAATTTAAAGCCTATAGGCTCAGGAGCTCAAGGAATAGTGTGTCAGCTTATGATGCCAT  
TCTTGAAAGAAATGTTGCAATCAAGAAGCTCAGCCGCCATTTCAAGATCAGACCCATGCTAAGCGCGCC  
TACCGAGAAGTCTTATGAAGTGTGTTAATCACAAAAATATAAATGGCCTTTGAATGTTTTACAC  
CACAGAAATCCCTAGAAGAATTTCAAGATGTTTACATAGTCATGGAGCTCATGGATGCAAATCTTTGCCA  
AGTGATTCAGATGGAGTTAGATCATGAAAGAATGTCTACCTTCTCTATCAAATGCTGTGGAATCAAG  
CACCTTCACTCTGCTGGAATTATTCATCGGACTTAAAGCCTAGTAATATAGTAGTCAAATCAGACTGCA  
CTTTGAAGATTCTTGATTTGGACTGGCGAGGACTGCAGGAACGAGTTTTATGATGACGCCTTATGGTCT  
GACTCGTACTACAGAGCACCAGAGGTCATTCTCGGCTACAGGAGAACTGCAAGGAGAACTGCAAGGAGT  
GTGGGTGCATTATGGGAGAAATGGTTTGCACAAAATCCTCTTTCCAGGAAGGGACTATATTGATCAGT  
GGAATAAAGTTATTGAACAGCTCGGAACACCTTGTCTGAATTCATGAAGAACTACAACCAACAGTAAG  
GACTTATGTTGAAAACAGGCCTAAATACGCTGGATATAGCTTTGAGAACTGTTCCCGATGTGCTTTTC  
CCAGCTGACTCAGAGCATAACAACTTAAAGCCAGTCAGGCAAGAGATTTGTTATCCAAAATGCTAGTAA  
TAGATGCATCCAAAAGGATCTCGGTAGATGAAGCTCTCCAGCACCCATACATCAACGCTCTGGTATGATCC  
TTCAGAAGCAGAAGCCCCACCACAAAGATCCCGACAAGCAGTTAGATGAGAGGGAGCACACAATAGAG  
GAGTGGAAAGAACTGATATACAAGGAGTAATGGATTTGGAGGAACGAACTAAGAATGGAGTCATAAGAG  
GGCAGCCGCTCTCTTTAGCACAGGTGCAGCAA

**ACGGT**ACGGCGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >MR206802 representing NM\_016700  
Red=Cloning site Green=Tags(s)

MSRSKRDNFYSVEIGDSTFTVLKRYQNLKPIGSGAQGIVCAAYDAILERNVAIKKLSRPFQNTTHAKRA  
 YRELVLMKCVNHKNIIGLLNVFTPQKSLEEFQDVYIVMELMDANLCQVIQMELDHERMSYLLYQMLCGIK  
 HLHSAGIIHRDLKPSNIVVKSDDLKILDFGLARTAGTSFMMPYVVTRYRAPEVILGMGYKENVDLWS  
 VGCIMGEMVCHKILFPGRDYIDQWNKVIEQLGTPCPEFMKKLQPTVRTYVENRPKYAGYSFEKLPDVLV  
 PADSEHNKLGASQARDLLSKMLVIDASKRISVDEALQHPYINVWYDPSEAEAPPKIPDKQLDEREHTIE  
 EWKELIYKEVMDLEERTKNGVIRGQPSPLAQVQQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9010\\_c10.zip](https://cdn.origene.com/chromatograms/mm9010_c10.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_016700

**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:**

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\\_016700.4](#), [NP\\_057909.1](#)

**RefSeq Size:** 5770 bp

**RefSeq ORF:** 1155 bp

**Locus ID:** 26419

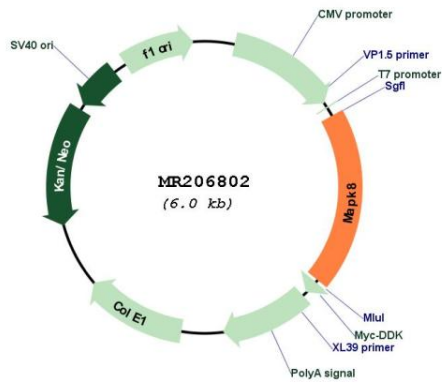
**UniProt ID:** [Q91Y86](#)

**Cytogenetics:** 14 B

**MW:** 44.7 kDa

**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]

Product images:



Circular map for MR206802