

## Product datasheet for MR227171

### Mapk3 (NM\_011952) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Mapk3 (NM_011952) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mapk3
Synonyms:	Erk-1; Erk1; Ert2; Esrk1; Mnk1; Mtap2k; p44; p44erk1; p44mapk; Prkm3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR227171 representing NM_011952 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGCGCGGGCGGGCTCCGGGGGGCGGGGAGCCAGGGAACTGCTGGGGTCTGCCCGG  
TGGTCCCCGGGGAGGTGGAGGTGGTGAAGGGCAGCCATTCGATGTGGGCCACGCTACACGCAGCTGCA  
GTACATCGGGAGGGCGGTACGGCATGGTCAGCTCAGCTTATGACCACGTGGCAAGACCAGAGTGGCC  
ATCAAGAAGATCAGCCCCTTTGAGCATCAAACCTACTGTCAGCGCAGCTGAGGGAGATCCAGATCTTGC  
TGGGATCCGCCATGAGAATGTTATAGGCATCCGAGACATCCTCAGAGCGCCACCCTGGAAGCCATGAG  
AGATGTTTACATTGTTACAGGACCTCATGGAGACAGACCTGTACAAGCTGTTAAAAGCCAGCAGCTGAGC  
AATGACCACATCTGCTACTTCTCTACCAGATCCTCCGGGGCCTCAAGTATATACTACTCAGCCAATGTGC  
TGCACCGGGACCTGAAGCCTTCCAATCTGCTTATCAACACCACCTGCGACCTTAAGATCTGTGATTTGG  
CCTGGCCCCGATTGCTGACCCTGAGCAGCACCACACTGGCTTCTGACGGAGTATGTGGCCACACGCTGG  
TACCGAGCCCCAGAGATCATGCTTAATTCCAAGGGCTACACCAAATCCATCGACATCTGGTCTGTGGGCT  
GCATTCTGGCTGAGATGCTCTCCAACCGGCCATCTTCCCCGGCAAGCACTACCTGGACCAGCTCAACCA  
TACCTGACGTCTCTGCCCTCGAAAACCAAGGTGGCTTGGGCCAAGCTCTTCTAAATCTGACTCCAAAG  
CTTTGACCTGCTGGACCGGATGTTAACCTTCAACCCAAACAAGCGCATCACAGTAGAGGAAGCGCTGGC  
TCAACCTTACCTGGAACAGTACTACGATCCGACAGATGAGCCAGTGGCCGAGGAGCCATTACCTTCGAC  
ATGGAGCTGGATGACCTCCCAAGGAGCGGCTGAAGGAGTTGATCTTCCAGGAGACAGCCCGCTTCCAGC  
CAGGGGCGCCAGAGGGCCCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >MR227171 representing NM\_011952  
Red=Cloning site Green=Tags(s)

MAAAAAAPGGGGGEPRTAGVVPVVPGEVEVVKGQPFVGVPRYTQLQYIGEGAYGMVSSAYDHVRKTRVA  
 IKKISPFHQTYCQRTLREIQILLRFRHENVIGIRDILRAPTLEAMRDVYIVQDLMETDLYKLLKSQQLS  
 NDHICYFLYQILRGLKYIHSANVLHRDLKPSNLLINTTCDLKICDFGLARIADPEHDHTGFLTTEYVATRW  
 YRAPEIMLNSKGYTKSIDIWSVGCILAEMLSNRPIFPGKHYLDQLNHILGILGSPSQEDLNCIINMKARN  
 YLQSLPSKTKVAWAKLFPKSDSKALDLLDRMLTFNPNKRITVEEALAHPLYEQYYDPTDEPVAEEPFTFD  
 MELDDLPKERLKLIFQETARFQPGAPEGP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9010\\_d06.zip](https://cdn.origene.com/chromatograms/mm9010_d06.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_011952

**ORF Size:** 1140 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\\_011952.2](#), [NP\\_036082.1](#)

**RefSeq Size:** 1772 bp

**RefSeq ORF:** 1143 bp

**Locus ID:** 26417

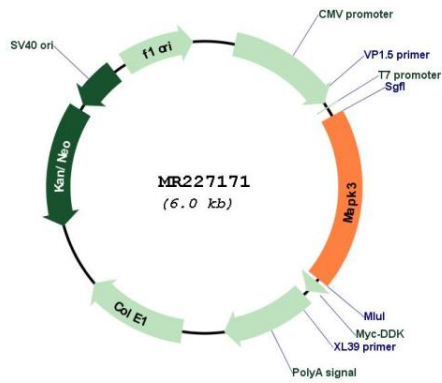
**UniProt ID:** [Q63844](#)

**Cytogenetics:** 7 69.25 cM

**MW:** 43.5 kDa

**Gene Summary:** Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade plays also a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) and phosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK/ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227171