

Product datasheet for **MR227294**

Mark2 (NM_007928) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mark2 (NM_007928) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mark2
Synonyms:	Emk; EMK-1; Par-1; Par-1b
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>MR227294 representing NM_007928
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCCAGCGCTCGGACCCCTACCCAGCTGAACGAAAGGGACACGGAGCAGCCACCTTGGGACACC
 TTGATTCCAAGCCAGCAGTAAGTCCAACATGCTGCGGGCCGCAACTCAGCCACCTCTGCTGACGAGCA
 GCCCATATTGGCAACTACCGGCTCCTTAAGACCATTGGCAAGGGTAACCTTGGCAAGGTGAAGTTGGCC
 CGGCACATCTGACGGGAAAGAGGTAGCTGTGAAGATCATCGACAAGACCCAGCTGAACTCCTCCAGCC
 TACAGAACTGTTCCGAGAAGTAAGAATAATGAAGTTTTGAATCATCCCAACATAGTTAAGTTGTTTGA
 AGTGATCGAGACTGAGAAGACTCTCTACCTTGTTCATGGAGTATGCCAGTGGCGGAGAGGTGTTTATTAC
 CTAGTGGCCCATGGCAGGATGAAAGAAAAAGAAGCTCGAGCCAAATTCGCCAGATAGTGTCTGCTGTGC
 AGTACTGTACCAGAAGTTCATTGTTTCATAGAGATCTAAAGGCAGAAAACCTGCTCCTGGATGCTGATAT
 GAACATCAAGATTGCAGACTTTGGCTTTAGCAACGAATCACCTTTGGGAACAAGCTGGATACTTTCTGT
 GGCAGTCTCCTTATGCTGCCCAAGAACTTTCCAGGGCAAAAAGTATGATGGTCCCTGAGGTGGATGCT
 GGAGCCTGGGAGTCATCCTCTATACACTGGTCAGCGGATCCCTGCCTTTTATGGACAGAACCTCAAGGA
 GCTGCGGGAACGGGACTGAGGGGAAATACCGTATTCCGTTCTACATGTCCACGGACTGTGAAAATCTG
 CTTAAGAAATTTCTCATACTTAATCCTAGTAAGAGAGGCACTTTAGAGCAAATTAAGAAAGATCGGTGGA
 TGAACGTGGGGCATGAGGACGATGAGCTAAAGCCTTATGTGGAACCTCTCCCTGACTACAAGGACCCCG
 GCGGACAGAGTTGATGGTGTCAATGGGTTACACACGGGAAGAGATCCAGGACTCGCTGGTAGGCCAGAGG
 TACAACGAAGTGATGGCTACCTATCTGCTCCTTGGCTACAAGAGCTCTGAGCTGGAAGGTGATACCATCA
 CTTTGAAGCCCCGGCCTTCAGTGATCTAACCAACAGCAGTGCCTCATCCACACAAGGTTTCCAGCG
 CAGCGTCTCTGCCAACCACAAGCAACGACGCTCCAGTGACCAGGCGTCCCTGCCATTCCACCTCGAAT
 TCTACTCTAAGAAGACTCAGAGTAACAACGCAGAAAATAAGCGCCTGAGGAAGAGACAGGCGGAAAG
 CCAGCAGCACCGCAAAGTGCCTGCCAGCCTCTGCCTGGCCTGGACAGGAAGAAGACCACTCCTGCCCC
 CTCCACGAACAGCGTCTTTCCACCAGCACAAACCGAAGCAGGAACTCCCACTTTTGGACAGGGCCAGC
 CTTGGCCAGGCCCTCCATCCAGAATGGTAAAGACAGCCTAACCATGCCAGGGTCCCGGGCCTCCACGGCT
 CTGCTTCTGCCGAGTCTCTGCGGCCCGCCCCGCCAGCACCAGAAATCCATGTCTGCCTCCGTACACCC
 CAACAAGGCTCTGGGTTGCCCCACGGAGAGTAAGTGTGAGGTGCCTCGGCCAGCACAGCCCCCAG
 CGCGTCCCTGTGCTCCCTCCGCCACAACATCAGCAGCAGTGTGAGGCCCCAGACCGAACTAATT
 TCCCACGGGTGTGTCCAGTCAAGCACCTTCCATGCTGGGCAGTCCGACAGGTGCGGGACCAGCAGAA
 TCTACCCTACGGTGTGACCCAGCCTCTCCCTCTGGCCATAGCCAGGGCCGGCGGGGGCCTCTGGCAGC
 ATCTTCAGCAAGTTCACCTCAAAGTTTGTCCGAGGAACCTGAATGAACCTGAAAGCAAAGACCGAGTGG
 AGACGCTCAGACCTCACGTGGTAGGCACTGGAGGCACTGACAAGGACAAGGAGGAGTTTTCGGGAGGCCAA
 GCCTCGTCCCTGCGCTTACCTGGAGCATGAAGACCAGAGCTCTATGGAGCCCAATGAGATGATGCGG
 GAGATCCGCAAGGTGCTGGACGCCAACAGCTGCCAAAGCGAGCTGCACGAGCGGTACATGCTACTGTGCG
 TGCATGGCACACCAGGCCAGGAACTTTGTGCAAGTGGGAGATGGAGGTGTGCAAACTGCCCGGCTGTC
 TCTCAACGGTGTTCGGTTTAAGCGGATATCGGGCACTTCCATGGCCTTCAAAAACATTGCCTCAAAAATA
 GCCAATGAGCTGAAGCTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR227294 representing NM_007928
Red=Cloning site Green=Tags(s)

MSSARTPLPTLNERDTEQPTLGHLDSPSSKSNMLRGRNSATSADEQPHIGNYRLLKTIKGNFAKVKLA
RHILTGKEVAVKIIDKTQLNSSLQKLFREVRIMKVLNHPNIVKLFEVIETEKTLVMEYASGGEVFDY
LVAHGRMKEKEARAKFRQIVSAVQYCHQKFIVHRDLKAENLLLDADMNIKIADFGFSNEFTFGNKLDTFC
GSPPYAAPELFGKKYDGPVDVWVSLGVILYTLVSGSLPFDGQNLKELRERVLRGKYRIPFYMSTDCENL
LKKFLILNPSKRGTLEQIMKDRWMNVGHEDDELKPYVEPLPDYKDPRTLMVSMGYTREEIQDSL VGQR
YNEVMATYLLLGYKSSELEGDTITLKPRPSADLTNSSAPSPSHKVQRSVSANPKQRRSSDQAVPAIPTSN
SYSKKTQSNNAENKRPEEETGRKASSTAKVPASPLPGLDRKKTTPAPSTNSVLSTSTNRSRNSPLDRAS
LGQASIQNGKDSLTPGSRASASAAVSAARPRQHQSMSASVHPNKASGLPPTESNCEVPRPSTAPQ
RVPVASPSAHNIISSSSGAPDRTNFPRGVSSRSTFHAGQLRQVRDQQLPYGVTPASPSGHSQGRGASGS
IFSKFTSKFVRRNLNEPESKDRVETLRPHVVGSGGTDKDKEEFREAKPRSLRFTWSMKTTSSMEPNEMMR
EIRKVL DANCQSELHERYMLLCVHGTPGHENFVQWEMEVCCLPRLSLNGVRFKRISGTSMAFKNIASKI
ANELKL

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_007928

ORF Size: 2328 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_007928.3](#)

RefSeq Size: 4648 bp

RefSeq ORF: 2331 bp

Locus ID: 13728

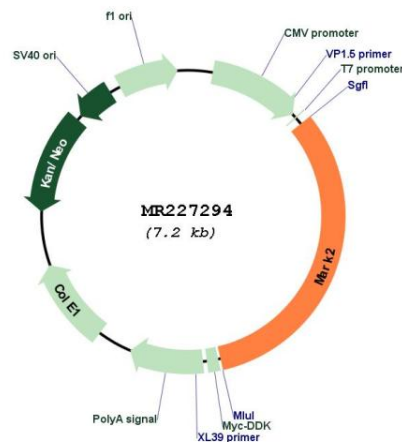
UniProt ID: [Q05512](#)

Cytogenetics: 19 5.32 cM

MW: 86.8 kDa

Gene Summary:

Serine/threonine-protein kinase. Involved in cell polarity and microtubule dynamics regulation. Phosphorylates CRTC2/TORC2, DCX, HDAC7, KIF13B, MAP2, MAP4 and RAB11FIP2. Phosphorylates the microtubule-associated protein MAPT/TAU. Plays a key role in cell polarity by phosphorylating the microtubule-associated proteins MAP2, MAP4 and MAPT/TAU at KXGS motifs, causing detachment from microtubules, and their disassembly. Regulates epithelial cell polarity by phosphorylating RAB11FIP2. Involved in the regulation of neuronal migration through its dual activities in regulating cellular polarity and microtubule dynamics, possibly by phosphorylating and regulating DCX. Regulates axogenesis by phosphorylating KIF13B, promoting interaction between KIF13B and 14-3-3 and inhibiting microtubule-dependent accumulation of KIF13B. Also required for neurite outgrowth and establishment of neuronal polarity. Regulates localization and activity of some histone deacetylases by mediating phosphorylation of HDAC7, promoting subsequent interaction between HDAC7 and 14-3-3 and export from the nucleus. Also acts as a positive regulator of the Wnt signaling pathway, probably by mediating phosphorylation of dishevelled proteins (DVL1, DVL2 and/or DVL3). Modulates the developmental decision to build a columnar versus a hepatic epithelial cell apparently by promoting a switch from a direct to a transcytotic mode of apical protein delivery. Essential for the asymmetric development of membrane domains of polarized epithelial cells.[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for MR227294