

Product datasheet for **MR227300**

Mark2 (NM_001080389) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mark2 (NM_001080389) 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:

>MR227300 representing NM_001080389
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCCAGCGCTCGGACCCCTACCCAGCTGAACGAAAGGACACGGAGCAGCCACCTTGGGACACC
TTGATTCCAAGCCAGCAGTAAGTCCAACATGCTGCGGGCCGCAACTCAGCCACCTCTGCTGACGAGCA
GCCCCATTGGCAACTACCGGCTCCTTAAGACCATTGGCAAGGGTAACCTTGGCAAGGTGAAGTTGGCC
CGGCACATCTGACGGGAAAGAGGTAGCTGTGAAGATCATCGACAAGACCCAGCTGAACTCCTCCAGCC
TACAGAACTGTTCCGAGAAGTAAGAATAATGAAGTTTTGAATCATCCCAACATAGTTAAGTTGTTTGA
AGTGATCGAGACTGAGAAGACTCTCTACCTTGTTCATGGAGTATGCCAGTGGCGGAGAGGTGTTTATTAC
CTAGTGGCCCATGGCAGGATGAAAGAAAAAGAAGCTCGAGCCAAATTCGCCAGATAGTGTCTGCTGTGC
AGTACTGTACCAGAAGTTCATTGTTTCATAGAGATCTAAAGGCAGAAAACCTGCTCCTGGATGCTGATAT
GAACATCAAGATTGCAGACTTTGGCTTTAGCAACGAATTCACCTTTGGGAACAAGCTGGATACTTTCTGT
GGCAGTCTCCTTATGCTGCCCAAGAACTTTCCAGGGCAAAAAGTATGATGGTCCCTGAGGTGGATGCT
GGAGCCTGGGAGTCATCCTCTATACACTGGTCAGCGGATCCCTGCCTTTTATGGACAGAACCTCAAGGA
GCTGCGGGAACGGGACTGAGGGGAAATACCGTATTCCGTTCTACATGTCCACGGACTGTGAAAATCTG
CTTAAGAAATTTCTCATACTTAATCCTAGTAAGAGAGGCACTTTAGAGCAAAATATGAAAGATCGGTGGA
TGAACGTGGGTCATGAGGACGATGAGCTAAAGCCTTATGTGGAACCTCTCCCTGACTACAAGGACCCCG
GCGGACAGAGTTGATGGTGTCAATGGGTTACACACGGGAAGAGATCCAGGACTCGCTGGTAGGCCAGAGG
TACAACGAAGTGATGGCTACCTATCTGCTCCTTGGCTACAAGAGCTCTGAGCTGGAAGGTGATACCATCA
CTTTGAAGCCCCGGCCTTCAGTGATCTAACCAACAGCAGTGCCCCATCTCCATCCACAAGGTTTCAGCG
CAGCGTCTCTGCCAACCACAAGCAACGACGCTCCAGTGACCAGGCGTCCCTGCCATTCCCACTCGAAT
TCTACTCTAAGAAGACTCAGAGTAACAACGCAGAAAATAAGCGCCTGAGGAAGAGACAGGCGGAAAG
CCAGCAGCACCGCAAAGTGCCTGCCAGCCCTCTGCCTGGCTGGACAGGAAGAAGACCACTCCTGCCCC
CTCCACGAACAGCGTCTTTCCACCAGCACAAACCGAAGCAGGAACCTCCCACTTTTGGACAGGGCCAGC
CTTGGCCAGGCCCTCCATCCAGAATGGTAAAGACAGCACAGCCCCCAGCGCTCCTGTGCGCTCCCCCT
CCGCCCCAACATCAGCAGCAGTAGTGGAGCCCCAGCCGAACTAATTTCCACGGGTGTGTCCAGTGC
AAGCACCTTCCATGCTGGGAGTCCGACAGGTGCGGGACCAGCAGAATCTACCTACGGTGTGACCCCA
GCCTCTCCCTCTGGCCATAGCCAGGGCCGGCGGGGGCCTCTGGCAGCATCTTCAGCAAGTTCACCTCCA
AGTTTGTCCGCAGAAATCTGTCTTTAGGTTTGGCAGAAGGAACCTGAATGAACCTGAAAGCAAAGACCG
AGTGGAGACGCTCAGACCTCACGTGGTAGGCAAGTGGAGGCACTGACAAGGACAAGGAGGAGTTTCGGGAG
GCCAAGCCTCGCTCCCTGCGCTTACCTGGAGCATGAAGACCACGAGCTCTATGGAGCCCAATGAGATGA
TGCGGGAGATCCGCAAGGTGCTGGACGCCAACAGCTGCCAAAGCGAGCTGCACGAGCGGTACATGCTACT
GTGCGTGCATGGCACACCAGGCCACGAGAACTTTGTGAGTGGGAGATGGAGGTGTGCAAACTGCCCCGG
CTGTCTCTAACGGTGTTCGGTTAAGCGGATATCGGGCACTTCCATGGCCTTAAAAACATTGCCTCCA
AAATAGCCAATGAGCTGAAGCTT

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR227300 representing NM_001080389
Red=Cloning site Green=Tags(s)

MSSARTPLPTLNERDTEQPTLGHLDSPSSKSNMLRGRNSATSADEQPHIGNYRLLKKTIGKGNFAKVKLA
 RHILTGKEVAVKIIDKTQLNSSSLQKLFREVRIMKVLNHPNIVKLFVIEITEKTLVLMVEYASGGEVFDY
 LVAHGRMKEKEARAKFRQIVSAVQYCHQKFIVHRDLKAENLLLDADMNIKIADFGF SNEFTFGNKLDTF
 GSPPYAAPEL FQKKYDGPEDVWVSLGVILYTLVSGSLPFDGQNLKELRERVLRGKYRIPFYMSTDCENL
 LKKFLILNPSKRGTLLEQIMKDRWMNVGHEDDELKPYVEPLPDYKDRRTELMVSMGYTREEIQDSL VGQR
 YNEVMATYLLLGYSSELEGDTITLKPRPSADLTNSSAPSPSHKVQSVSANPKQRRSSDQAVPAIPTSN
 SYSKKTQSNNAENKRPEEETGRKASSTAKVPASPLPGLDRKKTTPAPSTNSVLSTSTNRSRNSPLDRAS
 LGQASIQNGKDSTAPQRPVAVSPSAHNISSSGAPDRTNFPRGVSSRSTFHAGQLRQVRDQNLPGYVTP
 ASPSGHSQGRGASGSIFSFTSKFVRRNL SFRFARRNLEPESKDRVETLRPHVVGSGGTDKDKKEEFRE
 AKPRSLRFTWSMKTSSMEPNEMMREIRKVL DANSCQSELHERYMLLCVHGTPGHENFVQWEMEVCCKLPR
 LSLNGVRFKRISGTSMAFKNIASKIANELKL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001080389

ORF Size: 2193 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_001080389.2](#)

RefSeq Size: 4513 bp

RefSeq ORF: 2196 bp

Locus ID: 13728

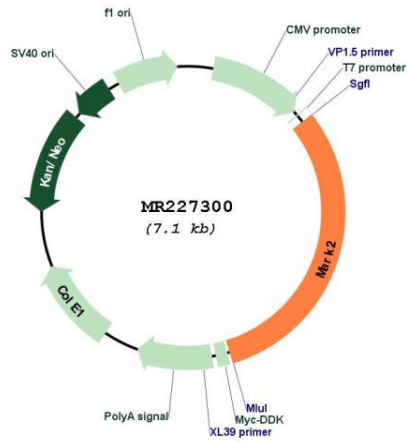
UniProt ID: [Q05512](#)

Cytogenetics: 19 5.32 cM

MW: 82.5 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 MR227300