

Product datasheet for **RC206122**

MCM4 (NM_182746) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MCM4 (NM_182746) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MCM4
Synonyms:	CDC21; CDC54; hCdc21; IMD54; NKCD; NKGCD; P1-CDC21
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC206122 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGTCGCCCGCGTCGACCCCGAGCCGCGCGCGGACCCGGCGTGAAGGGCCACCCCGCCAGACGC
 CTCGGAGTGAGGATGCCAGGTCACTCCCTCTCAGAGACGTAGAGGCGAGGATCCACCTCCACGGGGA
 GTTGACGCCGATGCCAACCTCGCCTGGAGTGGACCTGCAGAGCCCTGCTGCGCAGGACGTGCTGTTTTCC
 AGCCCTCCCAAATGCATTCTTCAGCTATCCCTCTTGACTTTGATGTTAGTTCACCACTGACATACGGCA
 CTCCCAGCTCTCGGGTAGAGGGAACCCCAAGAAGTGGTGTAGGGGCACACCTGTGAGACAGAGGCTGA
 CCTGGGCTCTGCACAGAAGGGCTGCAAGTGGATCTGCAGTCTGACGGGGCAGCAGCAGAAGATATAGTG
 GCAAGTGAGCAGTCTTAGGCCAAAACTTGATCTGGGGAACAGATGTAATGTGGCAGCATGCAAAAG
 AAAAATTTAGAGATTTCTTCAGCGTTTTATTGACCCTCTGGCTAAAGAAGAAGAAAATGTTGGCATAGA
 TATTACTGAACCTCTATACATGCAACGACTTGGGGAGATTAATGTTATTGGTGAGCCATTTTTAAATGTG
 AACTGTGAACACATCAAAATCATTGACAAAAATTTGTACAGACAACCTCATCTCTTACCCACAGGAAGTTA
 TTCCAACCTTTGACATGGCTGTCAATGAAATCTTCTTTGACCGTTACCCTGACTCAATCTTAGAACATCA
 GATTCAAGTAAGACCATTCAACGCATTGAAGACTAAGAATATGAGAACTGAATCCAGAAGACATTGAC
 CAGCTCATCACCATCAGCGGCATGGTGATCAGGACATCCAGCTGATCCCGAGATGCAGGAGGCCCTTCT
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 GTGCGGGCGTGCCACACCACCCACAGCATGGCACTCATCCACAACCGCTCCCTCTCTGACAAGCAG
 ATGATCAAGTTCAGGAGTCTCCGGAAGACATGCCTGCAGGGCAGACACCACACAGTTATCAGTGTGTTG
 CTCACAATGATCTCGTTGACAAGTCCAGCCTGGGGACAGAGTGAATGTTACAGGCATCTATCGAGTCTGT
 GCCTATTCGAGTCAATCCAAGAGTGAGTAATGTGAAGTCTGTCTACAAAACCCACATTGATGTCATTCAT
 TATCGGAAAACGATGCAAAACGCTGTCATGGCCTTGATGAAGAAGCAGAACAGAAAATTTTTTCAGAGA
 AACGTGTGGAATTGCTTAAGGAATTTCCAGGAAACCAGACATTTATGAGAGGCTTGCTTCAGCCTTGGC
 TCCAAGCATTTATGAACATGAAGATATAAAGAAGGGAATTTTGCTTCAGCTCTTTGGCGGACAAGGAAG
 GATTTTAGTCACACTGGAAGGGGCAAATTTCCGGCTGAGATCAACATCTTGCTGTGTGGCGACCTGGTA
 CCAGCAAGTCCCAGCTGCTGCAGTACGTGTACAACCTCGTCCCCAGGGGCCAGTACAGTCTGGGAAGGG
 CTCCAGTGCAGTTGGCCTCACTGCGTACGTAATGAAAGACCTGAGACAAGGCAGCTGGTCTGCAGACA
 GGTGCTCTTGCTGAGTGACAACGGCATCTGCTGTATCGATGAGTTCGACAAGATGAATGAAAGTACAA
 GATCGGTATTGCATGAAGTCATGGAACAGCAGACTCTGTCCATTGCAAAGGCTGGGATCATCTGTCAGCT
 CAATGCGCGCACCTCTGTCTGGCAGCAGCAAATCCCATTGAGTCTCAGTGGAAATCCTAAAAAACAAACC
 ATTGAAAACATCCAGCTGCCTCATACTTTATTATCAAGGTTTGATTTGATCTTCCCTCATGCTGGACCTC
 AGGACGAAGCCTATGACAGGCGTCTGGCTCACCACCTGGTCGCACTGACTACCAGAGCGAGGAGCAGGC
 AGAGGAGGAGCTCCTGGACATGGCGGTGCTAAAGGACTACATTGCCTACGCGCACAGCACCATCATGCCG
 CGGCTAAGTGAGGAAGCCAGCCAGGCTCTCATCGAGGCTTATGTAGACATGAGGAAGATTGGCAGTAGCC
 GGGGAATGGTTTTCTGCATACCTCGACAGCTAGAGTCATTAATCCGCTTAGCAGAAGCCCATGCTAAAGT
 AAGATTGTCTAACAAAGTTGAAGCATTGATGTGGAAGAGGCCAAACGCCTCCATCGGGAAGCTCTGAAG
 CAGTCTGCAACTGATCCCGGACTGGCATCGTGGACATATCTATTCTTACTACGGGGATGAGTGCCACCT
 CTCGTAACCGGAAAGAAGATTAGCTGAAGCATTGAAAAAGCTTATTTTTATCTAAGGGCAAAACCCAGC
 TCTAAAATACCAGCAACTTTTTGAAGATATTCGGGGACAATCTGACATAGCAATTAATAAGATATGTTT
 GAAGAAGCACTGCGTGCCCTGGCAGATGATGATTTCTGACAGTACTGGGAAGACCGTGCCTTGTCTC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC206122 protein sequence
 Red=Cloning site Green=Tags(s)

MSSPASTPSRRGSRGRATPAQTPRSEDARSSPSQRRRGEDSTSTGELQPMPTSPGVDLQSPAAQDVLFS
 SPPQMSSAIPLDFDVSSPLTYGTPSSRVEGTPRSGVGTVPVRQRPDLGSAQKGLQVDLQSDGAAEDIV
 ASEQSLGQKLVWGTDVNVAACKENFQRFQRFIDPLAKEEENVGIDITEPLYMQRLGEINVIGEPFLNV
 NCEHIKSFDKNL YRQLISYPQEVIPTFDMAVNEIFFDRYPDSILEHQIQVRPFNALKTKNMRNLNPEDID
 QLITISGMVIRTSQLIPEMQEAFQCVCAHTTRVEMDRGRIAEPSSVCGRCHTTHSMALIHNRSLFSDKQ
 MIKLQESPEDMPAGQTPHTVILFAHNDLVKQVPGDRVNVGTIYRAVPIRVNPRVSNVKSVMYKTHIDVIH
 YRKTDAKRLHGLDEEAQKLFSEKRVLLKELSRKPDYERLASALAPSIYEHEDIKKGILLQLFGGTRK
 DFSHTGRGKFRAEINILLCGDPGTSKSQLLYVYNLVPRGQYTSKGSSAVGLTAYVMKDPETRQLVLQT
 GALVLSDNIGICCIDFDKMNESTRSVLHEVMEQQTLSIAKAGIICQLNARTSVLAAANPIESQWNPKKT
 IENIQLPHTLLSRFDLIFLMLDPQDEAYDRRLAHLVALYYQSEEQAEELLDMAVLKDYIAYAHSTIMP
 RLSEEASQALIEAYVDMRKIGSSRGMVSAYPRQLES LIRLAEAHAKVRLSNKVEADVVEAKRLHREALK
 QSATDPRGTGIVDISILTTGMSATSRKRKEELAEALKKILSKGKTPALKYQQLFEDIRGQSDIAITKDMF
 EEALRALADDDFLTVTGTVRL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6695_d04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

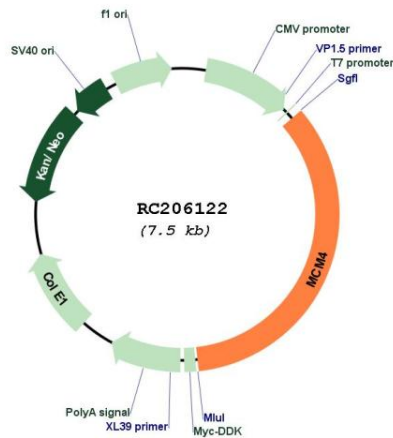


* The last codon before the Stop codon of the ORF

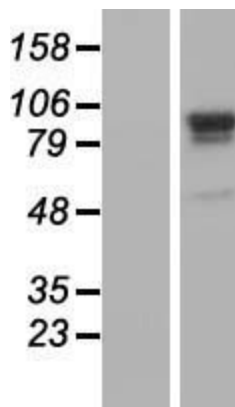
ACCN:	NM_182746
ORF Size:	2589 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own 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:	<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.
RefSeq:	NM_182746.3
RefSeq Size:	4800 bp
RefSeq ORF:	2592 bp
Locus ID:	4173
UniProt ID:	P33991
Cytogenetics:	8q11.21
Protein Families:	Stem cell - Pluripotency, Transcription Factors
Protein Pathways:	Cell cycle, DNA replication
MW:	96.6 kDa

Gene Summary:

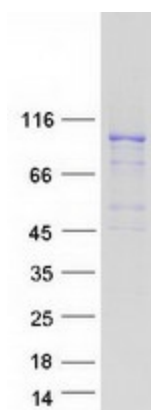
The protein encoded by this gene is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are essential for the initiation of eukaryotic genome replication. The hexameric protein complex formed by MCM proteins is a key component of the pre-replication complex (pre_RC) and may be involved in the formation of replication forks and in the recruitment of other DNA replication related proteins. The MCM complex consisting of this protein and MCM2, 6 and 7 proteins possesses DNA helicase activity, and may act as a DNA unwinding enzyme. The phosphorylation of this protein by CDC2 kinase reduces the DNA helicase activity and chromatin binding of the MCM complex. This gene is mapped to a region on the chromosome 8 head-to-head next to the PRKDC/DNA-PK, a DNA-activated protein kinase involved in the repair of DNA double-strand breaks. Alternatively spliced transcript variants encoding the same protein have been reported. [provided by RefSeq, Jul 2008]

Product images:


Circular map for RC206122



Western blot validation of overexpression lysate (Cat# [LY405345]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206122 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MCM4 protein (Cat# [TP306122]). The protein was produced from HEK293T cells transfected with MCM4 cDNA clone (Cat# RC206122) using MegaTran 2.0 (Cat# [TT210002]).