

Product datasheet for **RC212292**

MCM4 (NM_005914) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MCM4 (NM_005914) 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)



[View online »](#)

ORF Nucleotide Sequence:

>RC212292 representing NM_005914
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGTCGCCGCGTCGACCCCGAGCCGCGCGGACCCGCGTGAAGGGCCACCCCGCCAGACGC
 CTCGGAGTGAGGATGCCAGGTCACTCCCTCTCAGAGACGTAGAGGCGAGGATCCACCTCCACGGGGA
 GTTGACGCCGATGCCAACCTCGCCTGGAGTGGACCTGCAGAGCCCTGCTGCGCAGGACGTCTGTTTTCC
 AGCCCTCCCAAATGCATTCTTCAGCTATCCCTCTTGACTTTGATGTTAGTTCACCACTGACATACGGCA
 CTTCCAGCTCTCGGGTAGAGGGAACCCCAAGAAGTGGTGTAGGGGCACACCTGTGAGACAGAGGCTGA
 CCTGGGCTCTGCACAGAAGGGCTGCAAGTGGATCTGCAGTCTGACGGGGCAGCAGCAGAAGATATAGTG
 GCAAGTGAGCAGTCTTAGGCCAAAACTTGATCTGGGGAACAGATGTAATGTGGCAGCATGCAAAAG
 AAACTTTAGAGATTTCTCAGCGTTTTATTGACCCTCTGGCTAAAGAAGAAGAAAATGTTGGCATAGA
 TATTACTGAACCTCTATACATGCAACGACTTGGGGAGATTAATGTTATTGGTGGCCATTTTTAAATGTG
 AACTGTGAACACATCAAAATCATTGACAAAAATTTGTACAGACAACCTCATCTCTTACCCACAGGAAGTTA
 TTCCAACTTTTGACATGGCTGTCAATGAAATCTCTTTGACCGTTACCCTGACTCAATCTTAGAACATCA
 GATTCAAGTAAGACCATTCAACGCATTGAAGACTAAGAATATGAGAACTGAATCCAGAAGACATTGAC
 CAGCTCATCACCATCAGCGGCATGGTGATCAGGACATCCAGCTGATCCCGAGATGCAGGAGGCCCTTCT
 TCCAGTGCCAAGTGTGTGCCACACGACCCGGGTGGAGATGGACCGCGCCGATTCAGAGCCAGTGT
 GTGCGGGCGTGCCACACCACCCACAGCATGGCACTCATCCACAACCGCTCCCTCTCTGACAAGCAG
 ATGATCAAGTTCAGGAGTCTCCGGAAGACATGCCTGCAGGGCAGACACCACACAGTTATCCTGTTTTG
 CTCACAATGATCTCGTTGACAAGTCCAGCTGGGGACAGAGTGAATGTTACAGGCATCTATCGAGTCTGT
 GCCTATTCGAGTCAATCCAAGAGTGAGTAATGTGAAGTCTGTCTACAAAACCCACATTGATGTCATTCTAT
 TATCGGAAAACGGATGCAAAACGCTGTCATGGCCTTGATGAAGAAGCAGAACAGAAAATTTTTTCAGAGA
 AACGTGTGGAATTGCTTAAGGAACCTTCCAGGAAACCAGACATTTATGAGAGGCTTGCTTCAGCCTTGGC
 TCCAAGCATTTATGAACATGAAGATATAAAGAAGGGAATTTTGCTTCAGCTCTTTGGCGGACAAGGAAG
 GATTTTAGTCACACTGGAAGGGGCAAATTTCCGGCTGAGATCAACATCTTGCTGTGTGGCGACCTGGTA
 CCAGCAAGTCCCAGCTGCTGCAGTACGTGTACAACCTCGTCCCGAGGGCCAGTACAGTCTGGGAAGGG
 CTCCAGTGCAGTTGGCCTCACTGCGTACGTAATGAAAGACCTGAGACAAGGCAGCTGGTCTGCAGACA
 GGTGCTCTTGCTGAGTGACAACGGCATCTGCTGTATCGATGAGTTCGACAAGATGAATGAAAGTACAA
 GATCGGTATTGCATGAAGTCATGGAACAGCAGACTCTGTCCATTGCAAAGGCTGGGATCATCTGTCAGCT
 CAATGCGCGCACCTCTGTCTGGCAGCAGCAAATCCCATTGAGTCTCAGTGGAAATCCTAAAAAACAAAC
 ATTGAAAACATCCAGCTGCCTCATACTTTATTATCAAGGTTTGATTTGATCTTCCCTCATGCTGGACCTC
 AGGACGAAGCCTATGACAGGCGTCTGGCTCATCACCTGGTGCAGTGTACTACCAGAGCGAGGAGCAGGC
 AGAGGAGGAGCTCCTGGACATGGCGGTGCTAAAGGACTACATTGCCTACGCGCACAGCACCATCATGCCG
 CGGCTAAGTGAGGAAGCCAGCCAGGCTCTCATCGAGGCTTATGTAGACATGAGGAAGATTGGCAGTAGCC
 GGGGAATGGTTTTCTGCATACCTCGACAGCTAGAGTCATTAATCCGCTTAGCAGAAGCCCATGCTAAAGT
 AAGATTGTCTAACAAAGTTGAAGCCATTGATGTGGAAGAGGCCAAACGCCTCCATCGGGAAGCTCTGAAG
 CAGTCTGCAACTGATCCCGGACTGGCATCGTGGACATATCTATTCTTACTACGGGGATGAGTGCCACCT
 CTCGTAACCGAAAGAAGATTAGCTGAAGCATTGAAAAAGCTTATTTTTATCTAAGGGCAAAACACCAGC
 TCTAAAATACCAGCAACTTTTTGAAGATATTCGGGGACAATCTGACATAGCAATTAATAAGATATGTTT
 GAAGAAGCACTGCGTGCCTGGCAGATGATGATTTCTGACAGTACTGGGAAGACCGTGCCTTGTCTC

ACCGGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC212292 representing NM_005914
 Red=Cloning site Green=Tags(s)

MSSPASTPSRRGSRGRATPAQTPRSEDARSSPSQRRRGEDSTSTGELQPMPTSPGVDLQSPAQDVLFS
 SPPQMHSIAIPLDFDVSSPLTYGTPSSRVEGTPRSGVGRGTPVRQRPDLGSAQKGLQVDLQSDGAAEDIV
 ASEQSLGQKLVWGTDVNVAACKENFQRFQRFIDPLAKEEENVGIDITEPLYMQRLEINVIGEPFLNV
 NCEHIKSFDKNL YRQLISYPQEVIPTFDMAVNEIFFDRYPDSILEHQIQVRPFNALKTKNMRNLNPEDID
 QLITISGMVIRTSQLIPEMQEAFQCVCAHTTRVEMDRGRIAEPVCGRCHTHSMALIHNRSLFSDKQ
 MIKLQESPEDMPAGQTPHTVILFAHNDLVKQVPGDRVNVGTIYRAVPIRVNPRVSNVKSVMYKTHIDVIH
 YRKTDAKRLHGLDEEAEQKLFSEKRVLLKELSRKPDYERLASALAPSIYEHEDIKKGILLQLFGGTRK
 DFSHTGRGKFRAEINILLCGDPGTSKSQLLYVYNLVPRGQYTSKGSSAVGLTAYVMKDPETRLVLQT
 GALVLSDNIGICCIDEFDKMNESTRSVLHEVMEQQTLSIAKAGIICQLNARTSVLAAANPIESQWNPKKT
 IENIQLPHTLLSRFDLIFLMLDPQDEAYDRRLAHLVALYYQSEEQAEELLDMAVLKDYIAYAHSTIMP
 RLSEEASQALIEAYVDMRKIGSSRGMVSAYPRQLES LIRLAEAHAKVRLSNKVEADVVEAKRLHREALK
 QSATDPRGTGIVDISILTTGMSATSRKRKEELAEALKKILSKGKTPALKYQQLFEDIRGQSDIAITKDMF
 EEALRALADDDFLTVTGTVRL

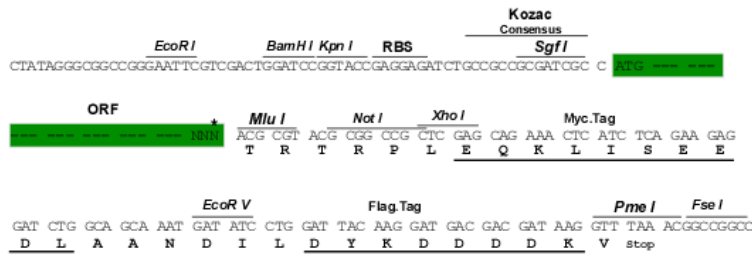
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6230_h05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

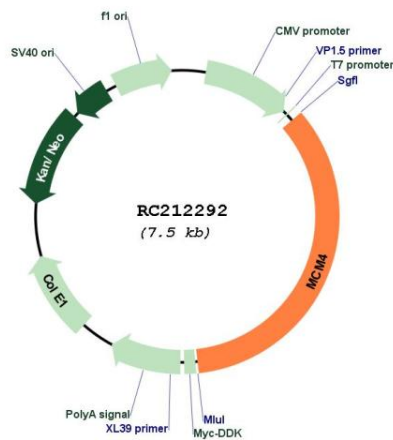


* The last codon before the Stop codon of the ORF

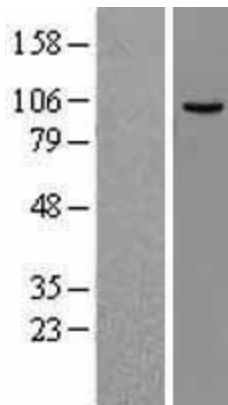
ACCN:	NM_005914
ORF Size:	2589 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid 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.</p> <p>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</p>
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_005914.4
RefSeq Size:	3533 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:	96.4 kDa

Gene Summary:

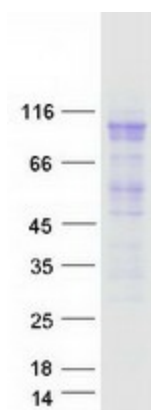
The protein encoded by this gene is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are essential for the initiation of eukaryotic genome replication. The hexameric protein complex formed by MCM proteins is a key component of the pre-replication complex (pre_RC) and may be 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 RC212292



Western blot validation of overexpression lysate (Cat# [LY416982]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212292 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MCM4 protein (Cat# [TP312292]). The protein was produced from HEK293T cells transfected with MCM4 cDNA clone (Cat# RC212292) using MegaTran 2.0 (Cat# [TT210002]).