

Product datasheet for **RC200208**

MCM3 (NM_002388) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MCM3 (NM_002388) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MCM3
Synonyms:	HCC5; P1-MCM3; P1.h; RLFB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC200208 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGGTACCGTGGTCTGGACGATGTGGAGCTGCGGGAGGCTCAGAGAGATTACCTGGACTTCTGG
 ACGACGAGGAAGACCAGGAATTTATCAGAGCAAAGTTTCGGGAGCTGATCAGTGACAACCAATACCGGCT
 GATTGTCAATGTGAATGACCTGCGCAGGAAAAACGAGAAGAGGGCTAACCGGCTTCTGAACAATGCCTTT
 GAGGAGCTGGTTGCCTCCAGCGGGCTTAAAGGATTTTGTGGCCTCCATTGATGCTACCTATGCCAAGC
 AGTATGAGGAGTTCTACGTAGGACTGGAAGGCAGCTTTGGCTCCAAGCACGTCTCCCCGCGGACTTTAC
 CTCCTGCTTCTCAGCTGTGTGGTCTGTGTGGAGGCATTGTCACTAAATGTTCTCTAGTTCGTCCAAA
 GTCGTCCGAGTGTCCACTACTGCTGCTACTAAGAAGACCATAGAGCGACGTTATTCTGATCTCACCA
 CCCTGGTGGCCTTCCCTCCAGCTCTGTCTATCCTACCAAGGATGAGGAGAACAATCCCCTTGAGACAGA
 ATATGGCCTTTCTGTCTACAAGGATCACCAGACCATCACCATCCAGGAGATGCCGGAAGGCCCCAGCC
 GGCAGCTCCCCGCTCTGTGGACGTATTCTGGATGATGACTTGGTGGATAAAGCGAAGCCTGGTGACC
 GGGTTCAGGTGGTGGAACTACCGTTGCCTTCTGAAAAGAAGGGAGGCTACACCTCTGGGACCTTCAG
 GACTGTCTGATTGCCTGTAATGTTAAGCAGATGAGCAAGGATGCTCAGCCCTCTTCTCTGCTGAGGAT
 ATAGCCAAGATCAAGAAGTTCAGTAAAACCCGATCCAAGGATATCTTTGACCAGCTGGCCAAGTCATTGG
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 AGACCTAGAAAATGGCAGCCACATCCGTGGGGACATCAATATTCTTAATAGGAGACCCATCCGTTGCC
 AAGTCTCAGCTTCTGCGGTATGTGCTTTGCACTGCACCCGAGCTATCCCACCACTGGCCGGGGCTCCT
 CTGGAGTGGTCTGACGGCTGTGTACCACAGACCAGGAAAACAGGAGAGCGCGCTGGAAGCAGGGGC
 CATGGTCTGGCTGACCGAGGCGTGGTTTGCAATTGATGAATTTGACAAAATGTCTGACATGGATCGCACA
 GCCATCCATGAAGTGATGGAGCAGGGTTCGAGTGACCATTGCCAAGGCTGGCATCCATGCTCGGCTGAATG
 CCCGCTGCAGTGTGGTGGCAGCTGCCAACCTGTCTACGGCAGGTATGACCAGTAAAGACTCCAATGGA
 GAACATTGGGCTACAGGACTCACTGCTGTACGATTTGACTTGTCTTTCATGCTGGATCAGATGGAT
 CCTGAGCAGGATCGGGAGATCTCAGACCATGCTCTTCCGATGCACCGTTACAGAGCACCTGGGGAGCAGG
 ATGGCGATGCTATGCCCTTGGGTAGTGTGGATATCCTGGCCACAGATGATCCCAACTTAGCCAGGA
 AGATCAGCAGGACACCCAGATTTATGAGAAGCATGACAACCTTCTACATGGGACCAAGAAGAAAAAGGAG
 AAGATGGTGAAGTGCAGCATTGATGAAGAAGTACATCCATGTGGCCAAAATCATCAAGCCTGTCTGACAC
 AGGAGTCGGCCACCTACATTGCAGAAGGATATTACGCCTGCGCAGCCAGGATAGCATGAGCTCAGACAC
 CGCCAGGACATCTCCAGTTACAGCCGAACACTGGAACTCTGATTTCGACTGGCCACAGCCCATGGGAAG
 GCCCGCATGAGCAAGACTGTGGACCTGCAGGATGCAGAGGAAGCTGTGGAGTTGGTCCAGTATGCTTACT
 TTAAGAAGTTCTGGAGAAGGAGAAGAAAACGTAAGAAGCGAAGTGAAGTGAATCAGAGACAGAAGATGA
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 GATGGGGATTACACGCCCTATGACTTCAGTGACACAGAGGAGGAAAATGCCTCAAGTACACACTCCAA
 AGACGGCAGACTCACAGGAGACCAAGGAATCCCAGAAAAGTGGAGTTGAGTGAATCCAGGTTGAAGGCATT
 CAAGGTGGCCCTTTGGATGTGTTCCGGGAAGCTCATGCCAGTCAATCGGCATGAATCGCCTCACAGAA
 TCCATCAACCGGGACAGCGAAGAGCCCTTCTCTTCAAGTTGAGATCCAGGCTGCTGAGCAAGATGCAGG
 ATGACAATCAGGTCATGGTGTCTGAGGGCATCATCTTCTCATC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC200208 protein sequence
 Red=Cloning site Green=Tags(s)

MAGTVVLDDELREAQRDYLDFLDDEEDQGIYQSKVRELISDNQYRLIVNVNDLRRKNEKRANRLLNNAF
 EELVAFQRALKDFVASIDATYAKQYEEFYVGLGFSFGSKHVSPTLTSCFLSCVVCVEGIVTKCSLVRPK
 VVRSVHYCPATKKTIERRYSDLTTLVAFPSSSVYPTKDEENNPLETEYGLSVYKDHQTITIQEMPEKAPA
 GQLPRSDVILDDDLDKAKPGDRVQVVGTYRCLPGKKGGYTSGETFRTVLIACNVKQMSKDAQPSFSAED
 IAKIKKFSKTRSKDIFDQLAKSLAPSIHGHDYVKKAILCLLLGGVERDLENGSHIRGDINILLIGDPSVA
 KSQLLRYVLCTAPRAIPTTGRGSSGVGLTAAVTTDQETGERRLEAGAMVLADRGVVICDEFDKMSMDRT
 AIHEVMEQGRVTIAKAGIHARLNARCSVLAANPVYGRYDQYKTPMENIGLQDSLLSRFDLLFIMLDQMD
 PEQDREISDHVLRMHRYRAPGEQDGDAMPLGSAVDILATDDPNFSQEDQDQTIYEKHDNLLHGTTKKKE
 KMVSAAFMKYIHVAKI IKPVL TQESATYIAEEYSRLRSQDSMSSDTARTSPVTARTLET LIRLATAHAK
 ARMSKTVDLQDAEEAVELVQYAYFKKVL EKEKKRKRSEDESETEDEEEKSQEDQEQRKRKRTRQPDAK
 DGDSYDPYDFSDTEEEMPQVHTPKTADSQETKESQKVELSESRLKAFKVALLDVFREAHAQSIGMNRLE
 SINRDSEEPFSSVEIQAALSKMQDDNQVMVSEGIIFLI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6209_e05.zip

Restriction Sites: Sgfl-Mlul

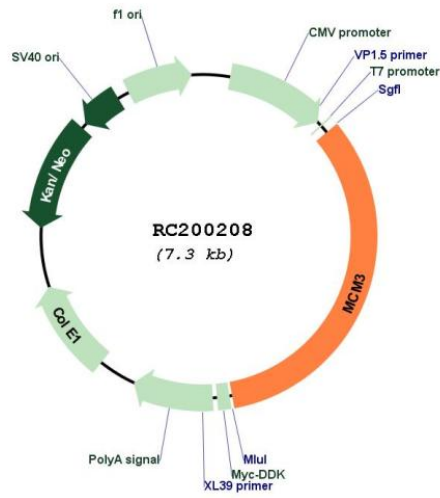
Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

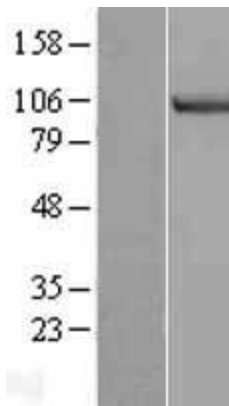
Plasmid Map:



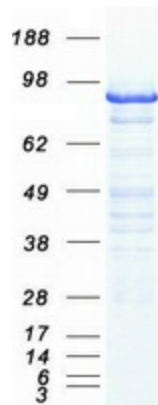
ACCN:	NM_002388
ORF Size:	2424 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid 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_002388.6
RefSeq Size:	3234 bp
RefSeq ORF:	2427 bp
Locus ID:	4172
UniProt ID:	P25205
Cytogenetics:	6p12.2
Domains:	MCM, AAA
Protein Families:	Druggable Genome, Stem cell - Pluripotency, Transcription Factors
Protein Pathways:	Cell cycle, DNA replication
MW:	91 kDa

Gene Summary:

The protein encoded by this gene is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are involved in 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. This protein is a subunit of the protein complex that consists of MCM2-7. It has been shown to interact directly with MCM5/CDC46. This protein also interacts with and is acetylated by MCM3AP, a chromatin-associated acetyltransferase. The acetylation of this protein inhibits the initiation of DNA replication and cell cycle progression. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2018]

Product images:


Western blot validation of overexpression lysate (Cat# [LY419355]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200208 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MCM3 protein (Cat# [TP300208]). The protein was produced from HEK293T cells transfected with MCM3 cDNA clone (Cat# RC200208) using MegaTran 2.0 (Cat# [TT210002]).