

Product datasheet for **SC106901**

MCM4 (NM_005914) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MCM4 (NM_005914) Human Untagged Clone
Tag:	Tag Free
Symbol:	MCM4
Synonyms:	CDC21; CDC54; hCdc21; IMD54; NKCD; NKGCD; P1-CDC21
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC106901 sequence for NM_005914 edited (data generated by NextGen Sequencing)

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ATGTCGTCCTCCCGGCGTCGACCCCGAGCCGCCGCGGCAGCCGGCGTGAAGGGCCACCC
GCCAGACGCCTCGGAGTGAGGATGCCAGGTATCTCCCTCTCAGAGACGTAGAGGCGAG
GATTCCACCTCCACGGGGAGTTGCAGCCGATGCCAACCTCGCCTGGAGTGGACCTGCAG
AGCCCTGCTGCGCAGGACGTGCTGTTTTCCAGCCCTCCCAAAATGCATTCTCAGCTATC
CCTCTTGACTTTGATGTTAGTTACCACCTGACATACGGCACTCCAGCTCTCGGTAGAG
GGAACCCCAAGAAGTGGTGTAGGGGCACACCTGTGAGACAGAGCCCTGACCTGGGCTCT
GCACAGAAGGGCCTGCAAGTGGATCTGCAGTCTGACGGGCAGCAGCAGAAGATATAGTG
GCAAGTGAGCAGTCTCTAGGCCAAAACTTGTGATCTGGGGAACAGATGTAATGTGGCA
GCATGCAAAGAAAACCTTTCAGAGATTTCTTACGCGTTTTATTGACCTCTGGCTAAAGAA
GAAGAAAATGTTGGCATAGATATTACTGAACTCTATACATGCAACGACTTGGGGAGATT
AATGTTATTGGTGAGCCATTTTTAAATGTGAAGTGTGAACACATCAAATCATTGGACAAA
AATTTGTACAGACAACCTCATCTTACCACAGGAAGTTATTCCAACCTTTGACATGGCT
GTCAATGAAATCTCTTTGACCGTTACCCTGACTCAATCTTAGAACATCAGATTCAAGTA
AGACCATTCAACGCATTGAAGACTAAGAATATGAGAAACCTGAATCCAGAAGACATTGAC
CAGCTCATCAACATCAGCGGCATGGTGATCAGGACATCCCAGCTGATCCCGAGATGCAG
GAGGCCTTCTCCAGTGCCAAGTGTGTGCCACACGACCCGGGTGGAGATGGACCGCGGC
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ATGCCTGCAGGGCAGACACCACACAGTTATCCTGTTTGCTCACAATGATCTCGTTGAC
AAGTCCAGCCTGGGGACAGAGTGAATGTTACAGGCATCTATCGAGCTGTGCCTATTCGA
GTCAATCCAAGAGTGAGTAATGTGAAGTCTGTCTACAAAACCCACATTGATGTCATTCAT
TATCGGAAAACGGATGCAAAACGCTGTCATGGCCTTGATGAAGAAGCAGAACAGAAAACCT
TTTTCAGAGAAAACGTGTGGAATTGCTTAAGGAACTTCCAGGAAACCAGACATTTATGAG
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CGGGCTGAGATCAACATCTTGTGTGTGGCGACCCTGGTACCAGCAAGTCCCAGCTGCTG
CAGTACGTGTACAACCTCGTCCCAGGGCCAGTACACGCTCTGGGAAGGGCTCCAGTGCA
GTTGGCCTCACTGCGTACGTAATGAAAGACCCTGAGACAAGGCAGCTGGTCTGCAGACA
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GAGTCTCAGTGAATCCTAAAAAACAACCATTGAAAACATCCAGCTGCCTCATACTTTA
TTATCAAGGTTTGATTTGATCTTCTCATGCTGGACCCTCAGGACGAAGCCTATGACAGG
CGTCTGGCTCATCACCTGGTGCCTGTACTACCAGAGCGAGGAGCAGGCAGAGGAGGAG
CTCCTGGACATGGCGGTGCTAAAGGACTACATTGCCTACGCGCACAGCACCATCATGCCG
GGCAGTAGCCGGGAATGGTTTTCTGCATACCCTCGACAGCTAGAGTCATTAATCCGCTTA
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TTAGCTGAAGCATTGAAAAAGCTTATTTTATCTAAGGGCAAAACACCAGCTCTAAATAC
CAGCAACTTTTTGAAGATATTGGGGACAATCTGACATAGCAATTAAGATATGTTT
GAAGAAGCACTGCGTGCCCTGGCAGATGATGATTTCTGACAGTACTGGGAAGACCGTG
CGCTTGCTCTGA

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Clone variation with respect to NM_005914.3
1948 t=>a;1992 c=>t

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005914 unedited
 TTTTGTAAACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGTGGACTCGGAGT
 CCGCGAGCGTCGTCGGCAAGCGGCCGCTTTCCACGGTACTCCGAGCACTATGTCGTCCC
 CGGCGTCGACCCCGAGCCGCCCGCCGAGCCGGCGTGGAAGGGCCACCCCGCCAGACGC
 CTCGGAGTGAGGATGCCAGGTCATCTCCCTCTCAGAGACGTAGAGGCGAGGATCCACCT
 CCACGGGGGAGTTGCAGCCGATGCCAACCTCGCCTGGAGTGGACCTGCAGAGCCCTGCTG
 CGCAGGACGTGCTGTTTTCCAGCCCTCCCAAATGCATTCTTCAGCTATCCCTCTTGACT
 TTGATGTTAGTTCACCACTGACATACGGCACTCCAGCTCTCGGGTAGAGGGAACCCCAA
 GAAGTGGTGTAGGGGCACACCTGTGAGACAGAGGCTGACCTGNGCTCTGCACAGAAGG
 GCCTGCAAGTGGATCTGCAGTCTGACGGGGCAGCAGCAGAAGATATAGTGGCAAGTGAGC
 AGTCTCTAGGCCAAAACTTGTGATCTGGGGAACAGATGTAATGTGGCAGCATGCANAG
 AAAACTTTCAGAGATTTCTTCAGCGTTTTATTGACCTCTGGCTAAAAAAGAGAAAATGT
 TGGCATAGATATTACTGAACCTTATACATGCAACGACTTGGGGAGATTAATGTTATTGG
 TGAGCCATTTTTAAATGTGAACGTGAACACATCAAATCATTTGACAAAAATTTGTACAG
 AACACTCATCTTACCAACAGAAAGTATTTCCACTTTTGAAGTGGCTGTCAATGAATCT
 TCTTGACCCGTACCTGGCTAATCTTANACCTCAGATTCAGGTAGAN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_005914 unedited
 GATATCTTTGGNACCGCGGCCGCAATCTAGGATCGAGTTTTTTTTTTTTTTTTTTTCTTC
 CTCATTTATTTAGAAAAGTTTTATGTATTAGGGTAAAGTGGTAGAAGTTAACCTAGAAT
 CTAATAATCTCCAATCACCCATTCTGATCTAATAGTAGCCATGAGAAAAATCTCTAGA
 AAGAATCATACTCTCAAAAAATAAAAAATAAAACAAAGGCTGGGTGCAGTGGCTCACAC
 CTGTAATCTCAGCACTTCGGAAGTTGAGGTGGGCAGATCGCTTGAGCCTAGGCATATCG
 CTTGCAGCCTGGGCAACGTGGCGAAGCCGTCTCTACAAAAAATACAAAAAGTAGCCGGG
 CATAGTGACATACACCTGAGCCCAGGAGGTTAAGCCTACATTGAGCCGTGATTGTACCAG
 TGTAATCTAGCCAGGGTACAGAGTAAGACCCTATCTCAAAAAAAGAAAGTCCATAAAAA
 AGAAAGGCTCTAGCCCTTACCAATGAGGTGATATGCCAGGCTATGCCTGTCATCAAAT
 CCATAAGCATACTGATGATGGCCATGAGAAAGTCCAGCACACAAACCATGCCCCAGACTG
 CATCTGTGCATACACAGAGTAAAAGCCCTGCTGCTATACTATAAAATGGCACCTGAAAAT
 AATCTCTACGGTATGTTTAAAAATTGGCAGGTTTTTTTTTTTTTTTTTTTTTTTTTTGAGACA
 GTCTCACCTATGTNNAGGGTGGGGAAGCCAAGGGCCCAACTTGGGCTCACTGGAACC
 TTTTGGCCCTGGGTTTTAGCGGATTTCTTGGCTTAAACCTCCGGATAGCTGGGATTAC
 AGGCGGATGCCATCTAGCCAGCTAATTTTTTGGTATCTTACTAGGAAACCGGGTTTCA
 CCATCCTGGCCTAGGGCTGGCCTGGGACTCC

Restriction Sites:

NotI-NotI

ACCN:

NM_005914

Insert Size:

3980 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](#)

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_005914.2](#), [NP_005905.2](#)

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

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]

Transcript Variant: This variant (1) represents a longer transcript and differs in the 5' UTR, as compared to variant 2. Both variants encode the same protein. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.