

## Product datasheet for **MC224169**

### **Mcm9 (NM\_027830) Mouse Untagged Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Mcm9 (NM\_027830) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Mcm9  
**Synonyms:** 9030408O17Rik; Gm235; Mcmdc1  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224169 representing NM\_027830  
**Red**=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGATCAGAGAAGCTACACGAAATGGAAAATATTGTGACGTGGAACCGGTGTCCCGCTCAAACCCCGCC  
CATGCCTCGGAGACCCCGCCCTCAGACGTCTTGTCCGGCCAAACCCCGCTCCAGCTCCCGAGTCCCG  
CCTCTCTCCCTGCTCCCGCTCCCGCTCGCAGACTCCAGCGTCCGTCTGGCGCGCGCCCGCTGCGTCC  
GCACCCGGAAGAAGCCAGCGGCGGAAAGTTGAGGCAGTGCGCGGCTCGGGTCCGCGGAAGCTCAA  
GTCTTCAGAGGCCGAGCGAGAGCAGCGGAAGAAGCCTGCGCGCCCCCGCGCAAGCGCGCCCTCGAG  
CGGCCGCGCGCACGCCCCGCCCCCTCAAACGCCGCGGGTGGGGTGGGGCGACACCGCCGACGCGCG  
GTCCCGGCGACCAAGACAGTGCCTGTTGAGCCCTACCCACCTTCAAGATGAATAGTGAGCAGGTCAACC  
TGGTGGTTCAGGTGTTGAGTCCATGTTTCAGAGTACCATAAGAACGATATTCTTCTGATCCTGAAAGA  
AAGAGATGAAGATGCTCACTACCCGTTGTGGTAAATGCTATGAGCCTTTTCGAGACCAACATGAAATT  
GGGACTATTTACCAGTGTCCCAATGAAGTAACTAACAGTTTTGACAGTGCACCTCGAAGGTCAAGCT  
TGGCAATTCTGCAGTCCCTTCTGAGACGAGGGGTTATCCATGAAGCAGAATCTTCATGCCAGGATATC  
AGGTTTGCCTGTTTGTCCAGAAGTGGTACGGAACACATTCCCAAACCAAGGATGTGGACACTTCTTA  
TCTGTCACTGGGACAGTATCCGAACGAGTCTGGTGAAGGCTTTGGAGTTCGAGCGGGATTACATGTGTA  
ACAAATGCAAGCATGTGTTATGGTGGAGGCGAGCTTCGAGCAGTATTACACCTTCAGTCGGCCATCGTC  
ATGTCCAAGTTTAGCCAGCTGTGACTCCTCAAATTTCTTGCCTCCTCAGACTTGTCTTCATCTCCAGCC  
AGATGTCGGGATTACCAGGAAATCAAATTCAGGAGCAGGTGCAAAGGCTGTCTGTTGGAAGTATCCAC  
GGTCTATGAAAGTTATTCTGGAAGATGACCTAGTTGACAGTTGCAAATCTGGAGATGACCTACCATCTA  
TGGGTTGTAATGCAACGGTGGAAACCTTTACGCGAGATGTACGCTGTGAAGTTGAGATTGTCTTGAA  
GCCAATATGTCCAAGTGAATAATGAGCAATCCTCGGGATGGTCATGGATGAGGACACTCGAAAAGAAT  
TTGAAGACTTCTGGGAACACTATAAGAGTGACCCCTTTGAGGGAGGAATGAAATATTGGCCAGCTTGTG  
TCCTCAAGTTTTTGGGATGTATCTAGTGAAGCTTGTGTGGCCATGGTACTGGCTGGTGGAAATTCAAAGA  
ACTGATGCTGCAGGAACCGGTTAGAGGGGAATCTCACCTTTTATTGGTGGGGATCCTGGCACAGGGA



AATCACAAATTCCTTAAATATGCAGCAAAGATTACCCCAAGGTCCGTTTTGACCACAGGAATTGGATCTAC  
 TAGTGCAGGTCTGACCGTGACAGCTGTCAAAGACTCAGGAGAATGGAATCTAGAGGCTGGGGCTTTGGT  
 CTTGCAGATGCTGGTCTCTGCTGTATTGACGAATTTAACAGCCTCAAAGAATGACAGGACAAGCATCC  
 ATGAAGCAATGGAGCAACAAACCATAAGTGTGCTAAGGCTGGCCTTGTGTAAGCTGAACACAAGGAC  
 CACCATCTGGCAGCAACTAACCCCAAAGGCCAGTATGACCCCAAGGAGTCTGTGTCTGTGAACATTGCC  
 CTCGGGAGCCCACTTTAAGTCGATTTGACCTTGTCTGGTTTTGCTCGACACTAGGAATGAAGACTGGG  
 ATCGTATCATTCTTCTTTATCTTAGAAAATAAAGGTTATCCAAGCAAATCAGAGAATCTGTGGAGCAT  
 GGAGAAGATGAAAACCTACTTCTGCCTCATTTCGGAATCTCCACCCACACTGTCTGAAGTGAAGCAATCAA  
 GTCTCTCTCGATACTACCAAATGCAAAGGCAGAGTGATTCGCGAATGCAGCCCGACAACCATCCGCC  
 TGTTAGAAAGCTTGATCCGATTAGCAGAAGCTCACGCTCGCTGATGTTCCGCGAGTGCCGTGACTCTGGA  
 AGATGCCGTTACAGCTGTATCTGTGATGGAGTCTTCAATGCAGGGAGGTGCTCTGCTAGGAGGTGTAAT  
 GCTCTCCACACTTCTTCCCTGAAAACCCCGTGCACAGTACCAGAGGCAGTGTGAACCTATTCTGGAAA  
 AGCTGAACTCCAGGGCCTTTGCAGGAAGAATTCGAAGACTGGAAAGGTTACAGAATGAGAGTGATACA  
 CCAATGCCAGTCACTTACTAGAGGAGGAGTGGCTCCAGGTTCTGCAGAAATGATCCCAGGGACAAG  
 CCAAGGCTCAGGACTTCAACACAGCAGGAACAGAGCTGTAGCTGGAGTCCACAGAGAGATCTGGTGCAG  
 ACTCCCCGCTGGTCCAGGGCTTAATAGACCAACAAGTTGTAACAATCAGCTGAGAACAGAGATGGCAG  
 AGGTGACGGTTTAGACTGGTTGGACCCACATCAAGTCTGAGATTGCACCAGAAAGCACTATTGTGTCT  
 CCCAATGTGAAAACAATGAGAAAAATGTGAATTTGAAAATCTCCAACAATAATCTCAGGGCAAGGAGA  
 AGCATGGGCCACAGCAAAGAAGCAAATTTAGAAAGCTGGACATCTTCCATCATCAGGAGCCATGAATGC  
 CCCCTTACGGTCTCACGGTGTAAAGCGTACAAAGGCAAGTCAGGCAGTGGTTGTATCTGAAGCAGGACGG  
 GGTGATGAAGAAGACTCTGTGCCCGAAGACTCCCCAAGCTGTGAAGGAGGGGTACAGAATGTGTGCA  
 GAAGCACAACAGAGTGCAGCCACTGCCACCCACTGTCCCTGTCCCTGTCTATCCCTTACCTGGGTC  
 AGGAAAAAGATCAGGAACACCCAAAAGAAAGAGACGGAAATCTGCTCAGGTGGAAGAGCTGAACCTGAA  
 GGTATGGAGACTCCAACAGTAAAGCTGGCCAAATTCACATTTAAACAGAAGACAAAATGACCCACTCCC  
 CCGAAGGCCAAGGCCCATACCTCCCAGTGTAGTGAATAGCAGTTGACAGTTCTAAAATTCCCAACA  
 AAGAACAAGAAGAGAAGCAGCTGTGCCTGTGGTAGCGCCAGGAAAGTCGACATCCACCTCAGGAGACAGA  
 TGCTCTGACCAGCTGCACGGAAGACAAAGGAGCTCTCAAGGCAGCCACCAGACAGTAATCCACCAAGAG  
 AGGAGAGGGAACAGGGCCCCAAAAGAAGGGTTATTCAGCCAAACCGGAGCTTGGGAACAGGCTGGGCA  
 TTCGATCTAGCCTGTGAGAAAGACAGAAAGGAAGGGTTTCTGCGGTAATAAAAGCAGCAAGGTTTAT  
 GCTGGCACCATAGCCAGACTGGCAAGCTTCTCCTTCACTTCCCCATCAGAATCCAATCGGAATCCCTCC  
 CTCTGAAAGGAAGGACAGCAGGGACAGCAGGGACAGCAGGGACAGCAGGGACAGGTGCCACAGCCCTCC  
 TGCAGCACAGCTCCAGTGTCTCGCCAGCAAAGGCAGACTTTCAGCTGCAGCAGCCACAGAGAGAGCG  
 AATCTTTCCACCCTCTCCCTTCTACTCTGTGCGAACTAGATGACGAAGCATTAGATTTTACTGGGAGG  
 AAGAGATGAGGAAAAAGCCATGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM\_027830
- Insert Size:** 3873 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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\\_027830.2](#), [NP\\_082106.2](#)

**RefSeq Size:** 3873 bp

**RefSeq ORF:** 3873 bp

**Locus ID:** 71567

**UniProt ID:** [Q2KHI9](#)

**Cytogenetics:** 10 B3

**Gene Summary:** Component of the MCM8-MCM9 complex, a complex involved in the repair of double-stranded DNA breaks (DBSs) and DNA interstrand cross-links (ICLs) by homologous recombination (HR) (PubMed:23401855, PubMed:22771120). Required for DNA resection by the MRE11-RAD50-NBN/NBS1 (MRN) complex at double-stranded DNA breaks to generate ssDNA by recruiting the MRN complex to the repair site and by promoting the complex nuclease activity (By similarity). Probably by regulating the localization of the MNR complex, indirectly regulates the recruitment of downstream effector RAD51 to DNA damage sites including DBSs and ICLs (PubMed:22771120, PubMed:23401855). Acts as a helicase in DNA mismatch repair (MMR) following DNA replication errors to unwind the mismatch containing DNA strand (PubMed:22771120, PubMed:26300262). In addition, recruits MLH1, a component of the MMR complex, to chromatin (By similarity). The MCM8-MCM9 complex is dispensable for DNA replication and S phase progression (PubMed:21987787). Probably by regulating HR, plays a key role during gametogenesis (PubMed:21987787, PubMed:22771120). [UniProtKB/Swiss-Prot Function]