

## Product datasheet for MC224134

### Prdm16 (NM\_027504) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Prdm16 (NM\_027504) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Prdm16  
**Synonyms:** 5730557K01Rik; csp1; mel1  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224134 representing NM\_027504  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGCGATCCAAGGCGAGGGCGAGGAAGCTAGCCAAAAGTGACGGTGACGTTGTAATAATATGTATGAAC  
 CTGACCCGGACCTGCTGGCCGGCCAGAGTGCCGAGGAGAGACCGAAGACGGCATCTGTCCCCATCCC  
 CATGGGGCCACCGTCCCCCTTCCCACAGCGAGGACTTCACTCCAAGGAGGGCTCGCCCTATGAGGCT  
 CCTGTCTACATTCCTGAAGACATTCCAATCCCACAGACTTCGAGCTACGAGAGTCTCCATACCGAGGAG  
 CTGGCCTGGGGATCTGGGCAAGCGGAAGATGAAATCGGGGAGAGGTTTGGCCCTACGTGGTGACGCC  
 CCGGGCCGCACTGAAGGAGGCCGACTTTGGATGGGAGATGCTGACGGATACAGAGGTGTCATCCCAGGAG  
 AGCTGCATCAAAAAGCAGATCTCTGAAGACTTGGGTAGCGAGAAGTTCTGCGTGGATGCCAATCAGGCGG  
 GGTCTGGCAGCTGGCTCAAGTACATCCGTGTAGCGTGTCTGTGATGACCAAACTCGCCATGTGTCA  
 GATCAACGAACAGATTTACTATAAAGTCATTAAGGACATCGAGCCTGGAGAGGAAGTGTGGTGCATGTG  
 AAAGAAGGTGCCTACTCCTTGGGTGTATGGCCCCAGCTTGGATGAGGACCCACATTCGCTGTGATG  
 AGTGTGATGAGCTTTCCAGTGCAGGCTGGACCTGAGGCGCCACAAGAAGTACCGGTGCAGCTCTGCAGG  
 AGCCCAGCTCTACGAGGGCCTAGGGGAGGAAGTCAAGCCCGAGGGCCTTGGCGTGGCAGCGACGGGCAA  
 GCGCATGAGTGCAAGGATTGCGAGCGGATGTTCCCAACAAGTACAGCTTGGAGCAACACATGATCGTCC  
 ACACGGAAGAGCGTGAGTACAAATGTGACCAGTGTCCCAAGCCCTCAACTGGAAGTCCAACCTCATCCG  
 CCACCAGATGTCTCACGACAGTGGAAGCGCTTCAATGTGAAAAGTGTGTCAAGGTGTTACGGACCCC  
 AGCAACCTCCAGCGTCACATCCGCTCACAGCATGTCGGTGCCCGGGCCCATGCCTGCCCTGACTGTGGCA  
 AGACCTTCGCCACATCCTCTGGCCTCAAACAGCACAAGCATATCCACAGCACGGTGAAGCCATTATG  
 CGAGGTCTGCCACAAGTCTACACGCAGTTCTCCAACCTGTGCCGCACAAGCGGATGCACGCCGACTGC  
 AGGACGCAGATCAAGTGAAGGACTGTGGGAGATGTTTCAAGCACTACCTCCTCCCTCAACAAGCATCGGA  
 GATTCTCGGAGGGCAAGAACCATTACACGCCTGGCAGCATCTTACCCCGAGGCCTGCCCTTGACCCCGAG  
 CCCCATGATGGACAAGACAAAACCTCCCCGACCTCAACCACGGGGGCTAGGCTTCAGCGAGTACTTC  
 CCTCCAGACCTCATCTGGGAGCTGCCTTCTCGGCTGCTCCTCCGGCCTTCCCGCACTCACTCCGG



GCTTCCCAGGCATCTTCTCCATCCCTGTACCCACGACCACCTCTGCTACCTCCCACGCCGCTGCTCAA  
 GAGCCCCCTGAACCACGCGCAGGACGCCAAGCTACCCAGCCCCTGGGAAACCCAGCCCTGCCCTTGTC  
 TCCGCGGTGAGCAATAGCAGCCAGGGTCCACAGCGGCCACCGGGTCTAGAGGAGAAATTTGATGGCCGCT  
 TGGAAAGACGCATATGCGGAGAAGGTCAAAAATAGGAGCCCTGACATGTCCGATGGCAGTGACTTTGAGGA  
 TATCAACACCACGACCCGGACAGACTTGGACACTACCACGGGCACGGGTGAGACCTGGACAGCGACCTG  
 GACAGTGACAGAGACAAAGGCAAGGACAAGGGGAAGCCAGTGGAGAGCAAACCTGAGTTTGGGGGTGCAT  
 CTGTGCCCTGGGGCCATGAACAGTGTGGCCGAGTACCGGCTTCTACTCACAGCATTCCTTCTTCCC  
 GCCACCCGAGGAACAGCTGCTGACGGCCTCGGGAGCTGCCGGCGACTCCATCAAGGCCATCGCGTCCATC  
 GCGGAGAAATACTTCGGTCTGGCTTCATGAGCATGCAGGAGAAGAAGCTGGGCTCACTACCCTACCACT  
 CCGTGTTCCCCTTCCAGTTCCTGCCTAACTTTCCCCTACTCCCTCTACCCCTTTACGGACCGAGCCCTCGC  
 CCACAACCTTGCTGGTCAAGGCTGAGCCAAAGTCAACCCGGGATGCCCTCAAGGTGGGCGGCCAGTGCG  
 GAGTGCCCTTCGACCTCACCACCAAACAAAAGAGGCCAAACCCGCCCTGCTCGCACCCAAAGTCCCCC  
 TCATCCCCTCATCTGGCAGGAACAGCCACTGGACCTGAGCATCGGCAGCAGGGCCAGGGCAAGCCAGAA  
 CGGAGGTGGCCGTGAGCCGCGGAAGAACCAGTCTACGGTGAACGGAAGCCGGGGTCTAGCGAGGGGCTG  
 CCTAAGGTGTGCCAGCAGACTGCCCCAGCAGCCCTCCTTGCAATATGCTAAGCCTTACCCTTCTTCA  
 TGGATCCCATCTACAGGGTAGAAAAGCGGAAGGTGGCAGACCCTGTGGGAGTCTGAAAGAGAAGTACCT  
 GCGGCCGTCCCCACTTCTGTTCCACCCAGATGTGAGCCATAGAAACCTGACGGAGAAGCTGGAGAGC  
 TTTGCAGCCATGAAGGCCGACTCAGGCAGCTCCCTGCAGCCCCTGCCTCACCCCGTTCAACTTCCGCT  
 CCCCACCCCAACGCTCTCGGATCCCATCCTCAGGAAGGGGAAGGAGAGATACACGTGCAGGTAAGTGTGG  
 CAAGATCTTCCCAGATCTGCAATCTCACAAGACATCTGAGGACACACAGGGGAGCAGCCATACAGG  
 TGCAAGTACTGTACCGGTCATTAGCATCTCCTCAACCTCCAGCGGCAGTGAAGAACATCCACAACA  
 AAGAGAAGCCGTTCAAGTGCCATCTGTGCAACCGCTGCTTCGGGCAGCAGACCAACCTAGACCCGACCT  
 GAAGAAGCACGAACAGAGGGCGCACCAAGTGAACCCAGCAGTCCGGGGTGTCTACGAACACCTGGGCACC  
 AGCGCCTCCTCCCCACCTCCGAGTCCGACAACCATGCACCTTTTAGATGAGAAGGAAGATTCTTACTTCT  
 CCGAGATCCGAAACTTATCGCCAACAGCGAGATGAACAGGCATCCACTCGAATGGACAACCGCCTGA  
 GATCCAAGACCTGGACAGCAACCCACCGTGTCCAGGCTCAGCCAGTGAAGGCCAGAGGACGTAGAGGAG  
 GAGGAAGAGGAGGAGCTGGAGGAAGAGGATGATGACAGCTTAGCCGGGAAGTACAGGAGGACACGGTGT  
 CCCCCACACTGAGCCCCAAGGAGTCTATGAAGATGAAGAGGATGAGGAACCCAGCCTGACCATGGG  
 CTTTGACCATACCCGGAGGTGTGTTGAGGAGCGAGGAGGGCCCTGTTAGCTTTGGAGCCGACGCCGACC  
 TTTGGGAAGGGGCTGGATCTCCGAGAGCAGCTGAGGAAGCATTGAAGTTAAAGATGTGCTTAATTCCA  
 CCTTAGATTCTGAGGTTTTAAAACAACCTGTACAGGCAGGCTAAGAACCAGGCATATGCAATGATGCT  
 GTCCTCTCTGAAGACACTCCTCTCCACGCCCTCCAGAGCTCACTGGATGCTTGTTGAACATCACA  
 GGACCCTCGTCAGAGTCCGGAGCCTTAAACCCATCAACCACCTCTGA

ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA  
 TTACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-NotI
- ACCN:** NM\_027504
- Insert Size:** 3828 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\\_027504.3](#), [NP\\_081780.3](#)

**RefSeq Size:** 8605 bp

**RefSeq ORF:** 3828 bp

**Locus ID:** 70673

**UniProt ID:** [A2A935](#)

**Cytogenetics:** 4 E2

**Gene Summary:** Binds DNA and functions as a transcriptional regulator (PubMed:18483224). Displays histone methyltransferase activity and monomethylates 'Lys-9' of histone H3 (H3K9me1) in vitro (PubMed:22939622). Probably catalyzes the monomethylation of free histone H3 in the cytoplasm which is then transported to the nucleus and incorporated into nucleosomes where SUV39H methyltransferases use it as a substrate to catalyze histone H3 'Lys-9' trimethylation (PubMed:22939622). Likely to be one of the primary histone methyltransferases along with MECOM/PRDM3 that direct cytoplasmic H3K9me1 methylation (PubMed:22939622). Functions in the differentiation of brown adipose tissue (BAT) which is specialized in dissipating chemical energy in the form of heat in response to cold or excess feeding while white adipose tissue (WAT) is specialized in the storage of excess energy and the control of systemic metabolism (PubMed:17618855, PubMed:18483224). Together with CEBPB, regulates the differentiation of myoblastic precursors into brown adipose cells (PubMed:18719582, PubMed:19641492). Functions as a repressor of TGF-beta signaling. [UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (1).