

## Product datasheet for **MC224851**

### Mdc1 (NM\_001010833) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Mdc1 (NM\_001010833) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Mdc1  
**Synonyms:** 6820401C03; AA413496; mKIAA0170; NFBD; Nfbd1  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224851 representing NM\_001010833  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGAAGCACCCAGGTGATTGACTGGGATGCTGAAGAAGAGGAAGAGACAGAACTATCCAGTGGCTCT  
 TGGGGTATAGTGTGGAGCCTATAGGGCAGCTACGTCTCTTCAGTGAACATCATGGACCAGAAAGAGATT  
 CCCCTCTACCTTGGCAAGAATGTAGTTGGTCAAGCCCTGACTGCTCTGTGGCCCTGCCTTTCCATCC  
 ATCTCAAACAGCATGCAGTAATTGAAATCTCAGCTTGAACAAAGCCCTATCCTCCAGGATTGTGGGA  
 GCCTCAATGGCACTCAAATCGTAAAGCCTCCTAGGGTCTACCTCCTGGAGTGAGCCATCGTCTGAGGGA  
 CCAGGAATTAATTCTGTTTGAGATTTTCCCTGCCAGTACCATCGCTGGATGTCCACCACCCTTGGTC  
 CCTCGGAGTCTTCTAACTATAGAGAAAACCCCAAGATACGGATAGAATCCCAAATCCAGAGTTTTGT  
 TGGCTGCCGATTCAGAGGAAGAAGGGGATTTTCTTCTGGAAGGTGTGTGGCAATGGACAAAGGAATAC  
 AGCATCCCCTTCAGCAACAGTAGTTCAGAAAAGTATGAAGAGGTCTCTTCTCCGCCCAAGTGTCCCC  
 GGGCCATCTTACCCCTTGGTTTGGGCAGTGACACTGATGAAGAACAAGGTCAGCAACCAGGAGTAGAGG  
 AGTCTCTTTAGCTGACAGCAGTGGTGTGCAGGGGAAGCTGAGCAGCCTGAAGCTAACGGAAACGACAG  
 TGGCATAACAGGCTCAGCCTACTGAGCACAAATTGAAGGACACAAAGTCAAGAAGGAGGAGGAGGCA  
 GGGGTCTCAGATGGGTGAGTTCTGGAGAGGAGCCCACTCTTGGAGAGGACAGTGACACAGAAGTGACG  
 AAGATCACAAACCTGGGTTTGGGACAGTGAGACAGATGTGGAAGAAGAGAGGATCCCTGTGACCCCCC  
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 GCACATCTGCAGGACTGCCTAGTGGTGTGACAGATGTGGAGGACAAGACTGCACTGGATGTCCCTC  
 TAGAGAGAAACCACACCCATGGTATCAACAGTGATACAGATGAGGAGGAGGAGGAGGAGGAGGAGGA  
 GGTCTCAGCAGCACTCACTTTGGCCATCTGAAAGAGAGAGGAATTGGTTTGTGGAGTAGAGCCCAGGC  
 GCAGAAGAGGTCAAGTCCAACACAGGTCCTTGTAGAACAAGCCAGAGTGCCTCTGGGAGAGACAGTG  
 ACACGGATGTGGAGGAGGAATCCTCAGGGCGAAAGAGAGAGATTATCCAGACAGTCCCATGGATGTAGA  
 TGAAGGCTTACTGTACACAGCCAGAGAGCCAGCCTCCCGTAGGCCCAATGATGCAGATGAGTACATG  
 GATATGAGCTCCCTGGCAGCCATCTAGTGGTAAATCAGGCCTCCTTGTGTGGTAGGCAAGACCAGAG



CACAAGTGGAGGAGGAAGTCCCAGGGCCATCTGTTATCCTGGGGAGAAGCACCAGGTGCCTCTAGAGGG  
 AGCCCAGCCTCCTGAGGAAGCCTGGGAAACAGCTGTTAGGAAGGCTCATCCTCACCAGAGGCAGCAGCC  
 TCTGTAAGGCCTAGCCAGCAGCCAGTAGCAGAAGATGCTGGGACAGAGTGTGCTACAGCTGTTTCTGAGC  
 AGGAAAGTACTCTTGAGGTGAGGTCCCAAAGCGGGTCACTGCAGCACCAGTGGAGCAAGTGGTGATACA  
 TACAGATACTTCAGGGGATCCCACCCTGCCACAGAGAGAGGGAGCCAAACCCCAAGGAAGGGAGAGA  
 GAAGCACATGTGGGCAGGACCAAGAGTGCCAAAGAGTGTGTGATGCAGAACTGAAGATCTGTGCCTTC  
 CAGTACCCAGTGTCTTGTGGAAGGGGAGAGCCAGCACCAGAGCTGCCAGAGTTTGAAAAATGAGCC  
 TACCCAACCTTCCCATGTACTTCCACAAGAGCCAGGACCTTCCATCTCAGCCTTCAGACTCCAGGT  
 GCAGATACCTTGATGTGCCTTGGGAAGTCTTGCTACACAGCCGTTCTGTCTAAGAGAACAGTCAGAGA  
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 TGATCAGAAAGGGCAAATGCTAGTCTAACACTAAAGCCTGGAGTTGGGGTGAAGGACCTTGAGGGACTT  
 GCATCAGCCCAATAATCACAGGGAGCCAGGCAGATGGAGGAAAGGGAGACCCCTTGAGCCCTGGGAGGC  
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 AGACCACTGCCTGTTTTCTCAGTGCCTGAAGCTTCAACTCAGAGTCTCCTCACCTCTCAGAGCCAAAAG  
 CAGTCTACACCTCAGCCTCTGTTTTCGACCTCTTCTCTGAGATACCCCTTCTGAGAGTCTTACACAA  
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 AAATACTACCTGCCCAACAAACAGCCTGCTGCCTTAGACCAACATCCGACCCACTCGGGGAGGGCA  
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 CAGAACAGCCTGTATCCAAAACCTTACGTCCCAGGTCAGTGGGACAGGTTACAGATGCCTGAACCACT  
 TCTCACAGGTCCCGAGATCCAGTCTCCACCTCCACAGAACAGTGTGTCACCCAGACCGCAAACCTCGG  
 GCCACTCGGGGAGGCCAAGTAAATCTCCCAACAAGACCCCAAGAACCACTTATTTCTACTGGCCTGAAC  
 TCCAACCTCCACCTCCATAGAACAACCTGTATACCTAAACCCACTTCTCGGGTCACTCGGGGAGAGCC  
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 CAGAATCAGTTGTCCTCCACTGGTCTGAGTGCAGCCTTTACCTCTGCAAAACAGCCTGTACCCCTAA  
 CCTCACATCTCGGCCTCTCGGGGTAGATCAAGTAAGTCTATCAGGACCCCGAAACAGTTGTCCAACT  
 GGCCCTGAATTCATCCATCCACCTCCACAGAACAGCCTGATACCCGTGAGCCCTCATCTCAGGCTAGGA  
 CACGTAGGTCTGCTGTAAGACTCCTGAAGCGAGTGTCCCAACAACCCCTGAACTCCAGCCTTTCACCTT  
 TAAAAACAGCCTGCCCTAAGCCTACAGCTCTGGTCACTCAGGGAAGGACATATAAACCCCTCCACTGAA  
 GATTGTGAATCAGTTGGGCCAGTGGCCCTGATTTGAGCCTTCCACCTTACAGACCATCTTGTACCC  
 CTAAGGTTACAGATCAGAGCTTAACACTACAGTCTTACCCTAAGTGTCTCCCAAGTTCCAGTACCC  
 TGATCTCAAGCCTCCTGTCCCAATAGCCAGCCTGTTACCCAGAGCCCATCCACAAGCCAATCACCAA  
 AGGAAACGAAGGGCTGTGGGAAGCAGGGTCCCAGCAGTCCCTCGGGTCATAAGTCTTACTCTGCC  
 TCTCTGAACCTGAGCCCCAATCTCAGCCAGCCAAAGCTCAGGAGCATCAGAAGCAGACTACCCCGTCA  
 AAAACGTCCCAGAAGACAAGCCTCCCAGAAAACCTGTAGTCAAGGAAGAACCTGTAGAAAACAGAAGTG  
 AAGGAAGAGCCTCAAGAGACTGCAATTCACACCCAGAAAAGAGAAAGAGGGACCATGCAGAAGAAGTGA  
 CCCAGGAAAACCAACTCGAAGCCGGCAACTAAACCTAACCAAGAAAACAGCCCCAAGGTACTGTTAC  
 AGGAGTCAAGGATTCTCGTGGCAGCGTGCAGTGTGCTGCTGGGAGGACAGTCTGGCCAGCTCAGTAAAT  
 GAGGCCTCCACTTAGTTACTGATCGCATCCGACAGGACAGTCAAGTCTTGTGTGCCCTGGGGAAGGGAA  
 TCCCCATCTGTCCCTGAACTGGCTGTACCAGTCCGAAAGGCTGGTTGCTTCTTGGCCCTGATGACTA  
 CTTAGTACTGATCCTGAGCAAGAGAAGAACTTAGCTTACGCTTCCGGATTCCCTGTGCCGGGCTCGG  
 GAACGAAGACTGCTGGAGACTATGAGATTGATGTGACCCCTGGCGTGCAGCCACCCCTCAGATGG  
 GCGAGATCATCAGTTGCTGTGGAGGCACTTTCCTGCCAGCATGCCTCACTCCTATAAGCTTACCAGG  
 CATCATAACTGCACTGAAGACCTACCACGCTGTGCTATTCCATCCCGCCTGGGGTACCCCTCCTCTCT  
 CCTGAGTCTCCTGACTGGAGTGTGAAGCAGGAAGCCACACCAGAGGCCTTTGTTCTCTCAATTTGG  
 AAATGTCATCTACCTAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_001010833

**Insert Size:** 5127 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\\_001010833.2](#), [NP\\_001010833.2](#)

**RefSeq Size:** 7372 bp

**RefSeq ORF:** 5127 bp

**Locus ID:** 240087

**UniProt ID:** [Q5PSV9](#)

**Cytogenetics:** 17 B1

**Gene Summary:** The protein encoded by this gene contains an N-terminal forkhead domain, two BRCA1 C-terminal (BRCT) motifs and a central domain with 7 divergent copies of an approximately 41-amino acid sequence. The encoded protein is required to activate the intra-S phase and G2/M phase cell cycle checkpoints in response to DNA damage. This nuclear protein interacts with phosphorylated histone H2AX near sites of DNA double-strand breaks through its BRCT motifs, and facilitates recruitment of the ATM kinase and meiotic recombination 11 protein complex to DNA damage foci. Mice with mutations in this gene exhibit growth retardation, male infertility, immune defects, chromosome instability, DNA repair defects, and radiation sensitivity. [provided by RefSeq, Jul 2008]