

Product datasheet for **RN217573**

Mdc1 (NM_001166275) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mdc1 (NM_001166275) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Mdc1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>RN217573 representing NM_001166275 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAAAACACTCAGGTGATTGACTGGGATGCTGAAGAAGAGGAAGAGACAGAAATATCCAGTGGATCCT
TGGGTATAGTGTGGAGCCTATAGGGCGCTGCGATTCTTCAGTGGTACCCATGGACCAGAACGAGATTT
CCCCTACCTTGGCAAGAATGAGTTGGTCTGAAGCCCTGACTGCTCTGTGGCCCTGCCTTTCCATCC
ATCTCCAAACAGCACGCAGTGATTGAAATCTCAGCTTGGAAACAAAGCCCTATCCTTCAGGATTGTGGGA
GCCTCAATGGCACTCAAATCGTAAAGCCTCCTAGGGTCCTAGCTCCTGGAGTGAGCCATCGTCTGAGGGA
CCAGGAATTAATTCTGTTTGCAGACTTTCCCTGCCAGTACCATCGCCTGAATGTCCACCACCCTTGGTC
CCTCGGAGTCTTCTAACTATAGAGAAGACCCCCAGAATACGGGGAAGATCCCAAATTCAGAGTTTTGT
TGGCTGAGGATTCAGAGGAAGAAGGAGATTTCTTCTGGAAGGTCTGTGGCAAATGGATCAAGGAATAC
AGCATCCCCTTCAGCAACAGTAGTTCCAGAAAGTATGAAGAGGGCTCTTCTCCAGGCCAAGTGTCCCT
GGGCCATCTTACCCTTTGGTTTGGGAAGTGACACAGATGAATCACAAGGTGAGCAACCAGGAGTAGAGG
AATCTTTTAGCTGACAACAGTGGTGGCCAGGGGAGCCTGAGCAGCCTGAAGTGAATGGAGTGACAAC
TGGCACACTGGCTCAGCCTACCAAGGACAAGTTCAAGGACACAAAGATGAAGGAGGAGGCAGGCAGTGCA
GGGTTTCCAGTTGGGTCAGTTGTGGAGGGGAGCCCCACTTGGGGAAGACAGTGACACAGAAGCGGATG
AAGAGCGTCAGCCTTCTGGTTCTGGGGATAGTGATACGGACGTAGAAGAAGAGAGGGTCCCTGTGAAGAA
GAACCAAGTACTGCTTGGGGTGGTATAGGGGGTCCAGGAGCACGTGGTGTGGCAGATCTGCAGGACAGC
CCAAGTGGTAGTACACAGATGTGGAGGAGGACAAGACTGCACTGGCTGCCCTCCAGAGAGAAGCCACA
CAGCCATGGTGTCAACAGTGATACAGACGAGGAGGAGAGGGGTGAGGAGGAAGAGGTCTCGGCAGCACT
CACCTTGGCCCTCTGAAGGAGAGAGGAATTCCTTTGTGGAGTGGAGAGCCAGGCACAGAGGAGGTCAAG
TCCAACACAGGTCTTGTAGAACGAAGCCAGAGTGCCTCTGGGAGAGACAGTGACACTGACGTGGAGG
AGGGATCCTCAGGGGAAAGAGAGAGATTGTCCCTGACAGCCCCATGGATGTAGATGAGACTCTTACTGT
CACACAGCCAGAGAGCCAGCCTCCCTGTAGGCCAATGATGTAGACGAGGATGTGGATATGAGCTCCCT
GGCAGCCATCTAGAGGAAAGAAGGCCTCCTCTGCTCTGGTAGACAAGAACAGAGCACAAGTGGAGGAGG
AAGTCCCAGGGCCATCTGTTACCCTGGGGGAGAAAACACCAGTGCCTCTAGAGGGAGCCAGCCTCCTGA
GGAAGCCCGGAAACAGCTGTGCAGGAAGGCTCATCCTCACCAGTGGCAGACATAAGAATGAGCCAGCAG



[View online »](#)

CCAGTAGCGGAAGATGCTGGGACAGAGTGTGCTGCAGCTGTTTCTGAACAGAAAAGTGTCTTGAGGTCC
 GGGCTCAGAGCAGGTACCTGCAGCACCCGTGGAGCAGGTGGTGGTACGCACAGATACTTCAGGGGATCC
 TACCCTGCCACAGAGAGAGGGAGCCAGACCCCAAGGAAAGAGAAAGCAGATGTGGGCGGGACC
 AAGCATGCCAAAGAGTGTGTGTAACCTGAGGATCTGTGCCTTCAGCCACCCAGTGTCTTGGAAG
 GGGAGAGCCAGCACCCAGGAGCTGTCCAGAGTTTGAAGATGAGCCTACCAAGTCTTCCATGCCTTCC
 CCAAGAGCCTGGACCTTCCATCTCAGCCTCCGACTCCAGGTGCAGATACTTGGATGTGCCTTGGAA
 GTCTTGGCTACACAGCCGTTCTGTCTGAGAGAACAGACAGAGACCTCTGAGCCCATGACACCCATGA
 CTATGGATCTCAACCATCTCTACCTGGGGAACCAAGGACCAACATCCGGTCCCTACCAGCCTAGA
 TCACACAGAGCTGTTGAGAATTGATGACAGAGAGATGCAGACTGTGGAGAAAGCCATGGGCCACCTAAGT
 TGCCAGATGATGCCAGATGGAAAGGCTTCCGGGGATGACCCAGAGCCCTCAGACCATCGCTGTTTTCTC
 CAGTGCCTGAAGCTTCAGCTTACCTCAGAGTCTCCTCACCTCTCAGAGCCAAAAGCAATCTACACCTCA
 GCCTATGTTTCCACTTCTTCTGAGCTAGCCCTTCTGAGACTTTCACACAAAGCCTAATGTCAGG
 CCACGGCGGTCTCCAGGATGACCCCTCCACATTCTCTGCTGCCCTAAGCCTTACTACCTGCC
 CCACAAACCAGCCTGCTGCTTCTAGGCCAACATCTCGCCCACTCGGGCAGGGCAAATAGTCTCTAC
 CAGGACCCGAACTGATTGTCCCTACAGGCCCTGAGCTCCAGCCTTCCACCTCCACAGAACAGCCTGGC
 ATTCCAAACCTCACTTCTCAGGTCACTGAGGGCAGGGCACATAGTACCTCTGTTAATATGCCTGAACCA
 TTCTCACAGGTCCCGAAGCCAGCCTCTCACCTCCGAGAAACAATCTGTACCTCAAACCTCAATCTCG
 GGCCAGCCTCTTACCCTGGAGCCAGTCCACAAACAGTCAACAAAGGAGGCGAAGGGCTACTGGGAAG
 CAGGGCTCCCGCACAGCTCCTGTTGGTCTAAGTCTTACTCTACCCCGCTGAACCTGAACCCAGTCTT
 CAGCCAGCCAAAGCTCAGGAGCATCAGAAGCAGATTACCCCATCAAAAACGTCCCGAAGACAAGTCAC
 CCAGAAAAGTGTAGTCGTAAGGAAGAAGATCCTGGAGAAATACAAGTGAAGGAAGGCCTCAGGAGACA
 GCAATTCACACAGCAAGAGAAAGAGGGACCCTGCAGAGGGGAAACCCAGGGAAACCAACTCGAA
 GCCGGCGAACTAAGCCTAACAGGAAGCAGCAGCCCAAGGACTGTTACAGGAGTGGTGGATTCTCG
 TGGAGAGCGTGCAGTGTGGCTCTAGGAGGCAGTCTGGCCAGCTCAGTAAATGAGGCCTCCCACTTGGT
 ACTGATCGCATCCGACAGGACAGTCAAGTCTTGTGTGCCGTGGGGAAGGGAATCCCATCTGTCCCTGA
 ACTGGCTCTATCAGTCCCGAAAGGCTGGTTGCTTCTTCCGCTGATGACTACTTGGTACTGATCCTGA
 ACAAGAGAAGAATTTAGCTTACGCTTCCGGGATCCCTGAGCCGGGCTCGGGAACGAAGACTACTGGAG
 GACTATGAGATTCATGTGACCCCTGGAGTGCAGCCACCTCCACCTCAGATGGGAGAGATCATCAGCTGT
 GTGGAGGCACTGTCTGCCAGCATGCCCACTTCTACAAGTTCACAGAGTTGCATAACGTGCACTGA
 AGACCTACCTCGATGTGCTATTGCATCTCGCTGGGGCTACCCCTCTCTCTCTGAGTTCTCTCTGACT
 GGAGTGTGAAGCAGGAAGCCACACCAGAGGCCTTGTCTCTCAATTTGGAATGTAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM_001166275
- Insert Size:** 3840 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).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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_001166275.1](#), [NP_001159747.1](#)

RefSeq Size: 4072 bp

RefSeq ORF: 3840 bp

Locus ID: 309595

UniProt ID: [Q5U2M8](#)

Cytogenetics: 20p12

Gene Summary: Required for checkpoint mediated cell cycle arrest in response to DNA damage within both the S phase and G2/M phases of the cell cycle. May serve as a scaffold for the recruitment of DNA repair and signal transduction proteins to discrete foci of DNA damage marked by 'Ser-139' phosphorylation of histone H2AFX. Also required for downstream events subsequent to the recruitment of these proteins. These include phosphorylation and activation of the ATM, CHEK1 and CHEK2 kinases, and stabilization of TP53 and apoptosis. ATM and CHEK2 may also be activated independently by a parallel pathway mediated by TP53BP1 (By similarity).
[UniProtKB/Swiss-Prot Function]