

Product datasheet for **MC223588**

Pold1 (NM_011131) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Pold1 (NM_011131) Mouse Untagged Clone
Tag: Tag Free
Symbol: Pold1
Synonyms: 125kDa
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC223588 representing NM_011131
Red=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGATTGTAAGCGGCGACAAGGACCAGGCCCTGGGGTGCCCCAAAGCGGGCTCGAGGGCACCTCTGGG
ATGAGGACGAGCCTTCGCCGTCGAGTTTGAGGCGAACCTGGCACTGCTGGAGGAAATAGAGGCTGAGAA
CCGGCTGCAGGAGGCAGAGGAGGAGCTGCAGCTGCCCCAGAGGGCACCTGGGTGGCAGTTTTCCACT
GCAGACATTGACCCTCGGTGGCGGCGGCCACCCTACGTGCCCTGGACCCAGCAGCAGGAGCCCTCATCT
TCCAGCAGCTGGAGATTGACCACTATGTGGGCTCAGCACCACCCCTGCCAGAAGGGCCCTGCCATCCCG
GAACTCAGTGCCCACTGAGGGCCTTTGGGGTACCCGATGAAGGCTTCTCCGTCTGCTGCCACATACAG
GGCTTTGCCCCCTACTTCTACACCCCGCGCCTCCTGGTTTTGGGGCCGAGCACCTGAGTGAGCTGCAGC
AGGAGCTGAACGCAGCCATCAGCCGGGACCAGCGCGGTGGGAAGGAGCTCTCAGGGCCGGCAGTGCTGGC
AATAGAGCTATGCTCCCGTGAGAGCATGTTGGGTACCACGGTCATGGCCCTTCTCCATTTCTCCGCATC
ACCCTGGCACTACCCCGCCTTATGGCACCAGCCCGCCCTTCTGGAACAGGGTGTCCGAGTGCCAGGCC
TGGGCACCCCGAGCTTCGCACCCTACGAAGCCAACGTGGACTTTGAGATCCGGTTCATGGTGGATGCTGA
CATTGTGGGATGCAACTGGTTGGAGCTGCCAGCTGGAAAGTACGTTTCGGAGGGCGGAGAAGAAGGCCACC
CTGTGTACAGCTGGAGGTGGAGCTGCTGTGGTCAAGTGTGATCAGTCACCCACCGAGGGGAGTGCCAGC
GCATTGCACCCCTGCGTGTGCTTAGCTTCGACATCGAGTGTGCTGGCCGAAAAGGCATCTTCCCTGAGCC
TGAGCGTGACCCCGTGATCCAGATCTGTTCTCTGGGGCTGCGCTGGGGGAGCCGGAGCCATTCTTGCCT
CTGGCACTCAGCTGCGGCCCTGTGCCCATCCTGGGTGCCAAAGTGACAGCTATGAGCGGGAAGAAG
ACCTGCTCCAGGCTGGGCCGACTTCATCCTTGCCATGGACCCTGACGTGATCACCAGCTACAACATTCA
GAACCTTTGACCTCCCATACCTCATCTCTCGGGCACAGGCCCTAAAGGTGGACCGCTTCCCTTTCTGGGC
CGCGTGACTGGTCTCCGCTCCAACATCCGTGACTCCTCCTCCAATCAAGGCAGGTGGCCGGCGGGGACA
GTAAAGGTGATCAGCATGGTGGGTGCGTTCAGATGGATATGCTGCAGGTGCTGCTTCGGGAACACAAAGCT
CCGCTCCTACACGCTCAACGCTGTGAGTTTCACTTCTGGGCGAGCAGAAGGAGGACGTTTCAGCACAGC
ATCATACCGACCTGCAGAATGGGAACGAACAGACGCGCCCGCCCTGGCCGTGTACTGCCTGAAGGACG



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CCTTTCTGCCACTCCGACTACTAGAGCGCCTTATGGTGCTGGTGAATAATGTGGAGATGGCGCGTGTAC
 GGGTGTACCCCTTGGGTACCTGCTCACCCGGGGCCAGCAGGTCAAGGTCGTGTCTCAGCTGCTGCCCGAG
 GCCATGCGCCAGGGGCTGCTGATGCCTGTGGTGAAGACCAGGGCAGTGAGGACTACACGGGAGCCACAG
 TCATTGAGCCCTCAAAGGGTACTATGACGTCCCATTGCCACCTGGACTTCTCCTCCTGTACCCATC
 CATCATGATGGCCATAATCTGTGCTACACCACGCTGCTCCGACCTGGGGCTGCCAGAAGCTGGGCCTT
 AAACCGATGAGTTCATCAAGACACCCACTGGGGATGAGTTTGTGAAGTCATCTGTACGGAAGGGCCTCC
 TGCCCCAGATCCTGGAGAATCTGCTGAGTGCCCGCAAGAGGGCCAAAGGCTGAGCTGGCTCAGGAGACGGA
 CCCCTGCGGCGACAGGTCTTGACGGCCGCAACTGGCACTAAAAGTGAGTGCCAACTCCGTATATGGC
 TCACTGGTGCCAGGTGGGCAAGCTGCCATGTTTGGAGATCTCCAGAGTGTACTGGGTTGCGGCGGC
 AGATGATTGAGAAAACCAAGCAGCTTGTGGAGTCCAAGTACACCGTGGAAAATGGCTACGATGCCAACGC
 CAAGGTAGTCTACGGTGACACGGACTCTGTGATGTGCCGTTTGGCGTCTCCTCTGTGGCTGAAGCAATG
 TCTCTGGGCGGGAGGCTGCAAACCTGGGTATCCAGTCACTTCCCATACCCATCCGGCTGGAGTTCGAGA
 AGGTTTACTTCCATACCTGCTCATCAGCAAGAAGCGCTATGCTGGCCTGCTTCTCCTCCCGCTCTGA
 TGCCCATGACAAAATGGACTGCAAGGGCTGGAGGCTGTGCGCAGGGACAACCTGCCCTGGTGCCAAC
 CTGTTTACATCCTCTCTGCGCCGATCCTCGTGGACCGGGACCCTGATGGGGCAGTAGCCATGCCAAGG
 AGTTCATCTCGGACCTGCTGTGCAACCGCATAGACATCTCCAGCTGGTCATCACCAAAGAGTTGACCCG
 CGCAGCAGCAGACTATGCTGGCAAGCAGGCTCACGTGGAGCTGGCTGAGAGGATGAGGAAGCGCGACCCC
 GGCAGTGCCGCCAGCCTGGGTGACCGAGTCCCCTATGTGATCATTGGTGCTGTAAGGGTGTGGCCGCT
 ACATGAAGTGGGAGACCCCTGTTTGTGCTGGAGCACAGCCTGCCCATCGACACTCAGTACTACCTGGA
 GCAGCAGCTGGCAAGCCGCTCTTGCGCATCTTGAGCCCATCTGGGTGAGGGCCGTGCAGAGTCTGTG
 CTGCTGCGCGGTGACCACACAGATGCAAGACTGTGCTCACCAGCAAGGTGGGCGGCCTCTTGGCCTTCA
 CCAAGCGCCGCAACTGTTGCATTGGCTGCCGCTCCGTAATCGACCATCAAGGAGCCGTGTGAAGTCTG
 TCAGCCACGGGAGTCGGAGCTCTATCAGAAGGAGGTGTACACCTGAATGCCTTGAAGAACGGTTCTCT
 CGCCTCTGGACACAGTGTCAACGCTGCCAGGGCAGCTTGCATGAGGACGTCATCTGTACCAGCCGTGACT
 GTCCCATCTTCTACATGCGCAAGAAGGTGCGCAAGGACCTGGAAGACCAGGAACGCTGCTGCAGCGCTT
 TGGACCGCCGCGCCTGAGGCTGGTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-MluI
- ACCN:** NM_011131
- Insert Size:** 3318 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_011131.3](#), [NP_035261.3](#)

RefSeq Size: 3428 bp

RefSeq ORF: 3318 bp

Locus ID: 18971

UniProt ID: [P52431](#)

Cytogenetics: 7 28.83 cM

Gene Summary: As the catalytic component of the trimeric (Pol-delta3 complex) and tetrameric DNA polymerase delta complexes (Pol-delta4 complex), plays a crucial role in high fidelity genome replication, including in lagging strand synthesis, and repair. Exhibits both DNA polymerase and 3'- to 5'-exonuclease activities. Requires the presence of accessory proteins POLD2, POLD3 and POLD4 for full activity. Depending upon the absence (Pol-delta3) or the presence of POLD4 (Pol-delta4), displays differences in catalytic activity. Most notably, expresses higher proofreading activity in the context of Pol-delta3 compared with that of Pol-delta4. Although both Pol-delta3 and Pol-delta4 process Okazaki fragments in vitro, Pol-delta3 may be better suited to fulfill this task, exhibiting near-absence of strand displacement activity compared to Pol-delta4 and stalling on encounter with the 5'-blocking oligonucleotides. Pol-delta3 idling process may avoid the formation of a gap, while maintaining a nick that can be readily ligated. Along with DNA polymerase kappa, DNA polymerase delta carries out approximately half of nucleotide excision repair (NER) synthesis following UV irradiation. Under conditions of DNA replication stress, in the presence of POLD3 and POLD4, may catalyze the repair of broken replication forks through break-induced replication (BIR). Involved in the translesion synthesis (TLS) of templates carrying O6-methylguanine or abasic sites.[UniProtKB/Swiss-Prot Function]