

Product datasheet for **MR207366**

Pold3 (NM_133692) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pold3 (NM_133692) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Pold3
Synonyms:	2410142G14Rik; C85233; P66; P68
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR207366 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCGGAACAGCTGTATCTAGAAAACATAGACGAGTTCGTACGGACCAGAACAAGATCGTGACTTACA
 AGTGGCTAAGCTATACACTAGGGGTTTCATGTTAACCCAGGCCAAACAGATGCTCTATGAATATGTTGAAAG
 GAAACGGAAAGAAAATTCGGGAGCTCAGCTGCATGTTACCTACTTGGTGTCTGGCAGTCTTATACAGAAC
 GGACATCTTGGCCACAAGTTGCAGTAGTGAGAGAAGATAAACTGGAAGCAGTGAAGTCCAAGTTAGCTG
 TGACTGCCAGCATCCATGTGTACAGCATCCAGAAAAGCTATGCTAAAGGACAGTGGGCCTCTGTTCAATAC
 CGACTATGACATCCTTAAAGCAATTTGCAGAACTGCAGCAAGTTTGTGCCATACAGTGTGCAGCTGCA
 GTCCCCAGAGCTCCTGCAGAAATCCCATCTTCCAGAAAGTATGAACAGTCAAATCTTCAGGCAGCGAGTG
 AGGCACAAGCCAGTGAGCTGACTACCAATGGCCATGGTCCACCTGCCTCCAAACAGGCTTCCCAGCAGCC
 CAAAGGAATTATGGGAATGTTAATCTCTAAAGCTGCTACTAAAACCCAGGACACCAACAAGGAAACAAA
 CCAGAGGGCCCGAGAAGTAACAGTGCATCTTCTGCTGGGGCAAAGCACCAGGAAAAGGGAGTGTGATGA
 GCAACTTTTTTGGAAAAGCTGCAATGAATAAACTTAAAGTCAATTTGGATTTCAGAACAAAGCAGTAAAGGA
 AGAAAAACAGTGGAGCAACCTCCAGTGTCTGTCACTGAACCAAAGCTGGCAGCTCCCCAGCTCAGAAG
 AAATCCAGCAGAAAGTCCGAGCCTGGGAAGGTGCAGCAGAAAGGAGAAAAGCAGGGGCAAGCGAGTAGACT
 TGTCGGATGAGGAGGCAAAGGAAACCGAACCTGAAGAAAAAGAGAAGAAGAATCAAGCTTCTCAGTC
 TGATAGCAGTGAAGATGAAGTCTTGAAGACTCCCCTGAGATGTATGAAGCAGACTCACCATCTCCACCT
 CCTGTATCTCCACCTCCTGATCCTATGCCAAAACTGAGCCCCCTCCTGTCAAGCGTTCAAGTGGAGAAA
 CAAAAGGAGACGAAAGCGTGTACTGAAATCTAAAACCTTTGTGGATGAAGAAGGCTGCATAGTGATGA
 GAAAGTCTATGAGAGTGAGTCTGCACAGACAGTGAGGAGGAGCTTAAGATGAAGCCGGCCTCAGCACAC
 AAACCCCTGCTGCCGCTGTGAAAAGGGAGCCAGAGAAGAACGGAAGGGCCCAAGAAAGGGGCTGCTG
 CTCTGGGCAAAGCCAACAGACAAGTGTCCACTACTGGCTTCTCCAGAAAAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

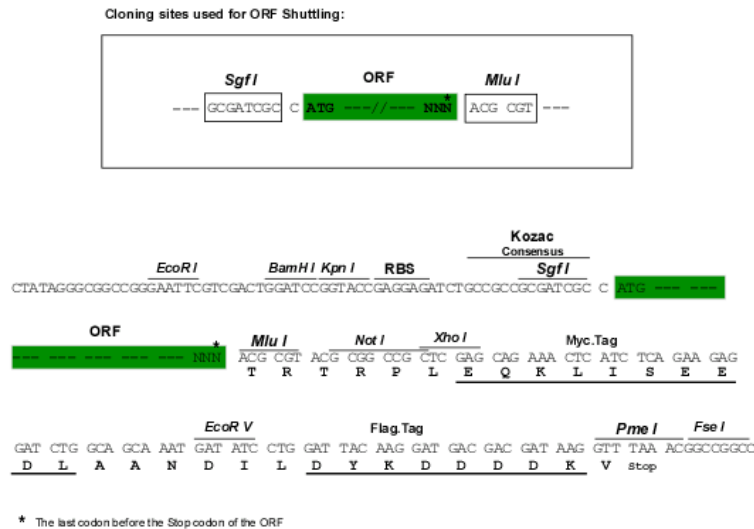
>MR207366 protein sequence
 Red=Cloning site Green=Tags(s)

MAEQLYLENIDFVTDQNKIVTYKWL SYTLGVHVNQAKQML YEYVERKRRKENSQAQLHVTYL VSGSLIQN
 GHSCHKVAVVREDKLEAVKSKLAVTASIHVYSIQKAMLKDSGPLFNTDYDILKSNLQNSKFS AIQCAA
 VPRAPAESPSSRKYEQSNLQAASEAQASELTTNGHGPPASKQASQPKGIMGML ISKAATKTQDTNKETK
 PEAREVTSASSAGGKAPGKGSVMSNFFGKAAMNKLKVNLDSEQAVKEEKTVEQPPVSVTEPKLAAPPAQK
 KSSRKSEPGKVQKKEKSRGKRVDL SDEEAKETEHLKKRRRIKLPQSDSSEDEVFEDSPEMYEADSPSP
 PVSPPPDPMPKTEPPPVKRSSGETKRRRRLVLSKTFVDEEGCIVTEKYVESESCTDSEELKMKPASAH
 KPPAAAVKREPREERKGPKKGAAALGKANRQVSIITGFFQKK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

ACCN: NM_133692

ORF Size: 1386 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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_133692.2](#), [NP_598453.1](#)
RefSeq Size: 3002 bp

RefSeq ORF: 1386 bp

Locus ID: 67967

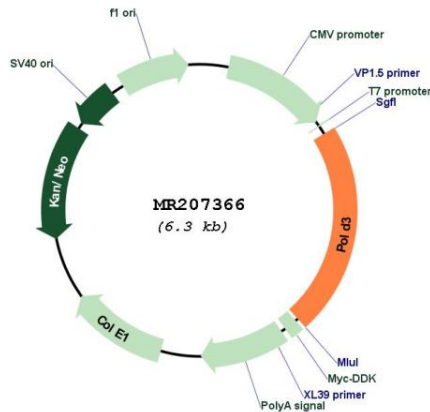
Cytogenetics: 7 E2

MW: 50.7 kDa

Gene Summary:

As a component of the trimeric and tetrameric DNA polymerase delta complexes (Pol-delta3 and Pol-delta4, respectively), plays a role in high fidelity genome replication, including in lagging strand synthesis, and repair (PubMed:10219083, PubMed:27524497). Required for optimal Pol-delta activity. Stabilizes the Pol-delta complex and plays a major role in Pol-delta stimulation by PCNA. Pol-delta3 and Pol-delta4 are characterized by the absence or the presence of POLD4. They exhibit differences in catalytic activity. Most notably, Pol-delta3 shows higher proofreading activity than Pol-delta4. Although both Pol-delta3 and Pol-delta4 process Okazaki fragments in vitro, Pol-delta3 may also 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. In this context, POLD3, along with PCNA and RFC1-replication factor C complex, is required to recruit POLD1, the catalytic subunit of the polymerase delta complex, to DNA damage sites. Under conditions of DNA replication stress, required for 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 performed by Pol-delta4, independently of DNA polymerase zeta (REV3L) or eta (POLH). Facilitates abasic site bypass by DNA polymerase delta by promoting extension from the nucleotide inserted opposite the lesion. Also involved in TLS, as a component of the POLZ complex. Along with POLD2, dramatically increases the efficiency and processivity of DNA synthesis of the minimal DNA polymerase zeta complex, consisting of only REV3L and REV7 (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR207366