

Product datasheet for **RG228551**

PARP9 (NM_001146106) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PARP9 (NM_001146106) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PARP9
Synonyms:	ARTD9; BAL; BAL1; MGC:7868
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide
Sequence:

>RG228551 representing NM_001146106
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGACTTTTCCATGGTGCCGGAGCAGCAGCTTACAATGAAAAATCAGAGACTGGTGCTCTTGGAGAAA
 ACTATAGTTGGCAAATCCCATTAACCACAATGACTTCAAAATTTAAAAATAATGAGCGTCAGCTGTG
 TGAAGTCTCCAGAATAAGTTTGGCTGTATCTCTACCCTGGTCTCTCCAGTTCAGGAAGGCAACAGCAAA
 TCTCTGCAAGTGTTCAGAAAAATGCTGACTCCTAGGATAGAGTTATCAGTCTGAAAAGATGACCTCACCA
 CACATGCTGTTGATGCTGTGGTGAATGCAGCCAATGAAGATCTTCTGCATGGGGGAGGCCTGGCCCTGGC
 CCTGGTAAAAGCTGGTGGATTTGAAATCCAAGAAGAGAGCAAACAGTTTGTGGCCAGATATGGTAAAGTG
 TCAGCTGGTGAGATAGCTGTACGGGAGCAGGGAGGCTTCCCTGCAAACAGATCATCCATGCTGTTGGGC
 CTCGGTGGATGGAATGGGATAAACAGGGATGACTGGAAAGCTGCAGAGGGCCATTGTAAGTATTCTGAA
 TTATGTATCTATAAAAAACTCACATTAAGACAGTAGCAATCCAGCCTTGAGCTCTGGGATTTTTCAG
 TTCCCTCTGAATTTGTGTACAAAGACTATTGTAGAGACTATCCGGGTTAGTTTGCAAGGGGAGCCAAATGA
 TGAGTAATTTGAAAGAAATTCACCTGGTGAAGCAATGAGGACCCTACTGTTGCTGCCTTTAAAGCTGCTTC
 AGAATTCATCCTAGGGAAGAGTGAGCTGGGACAAGAAACCACCCCTTCTTTCAATGCAATGGTCGTGAAC
 AACCTGACCTCCAGATTGTCCAGGGCCACATTGAATGGCAGACGGCAGATGTAATTTGTTAATTTCTGTAA
 ACCCACATGATATTACAGTTGGACCTGTGGCAAAGTCAATTCTACAACAAGCAGGAGTTGAAATGAAATC
 GGAATTTCTTCCACAAAGGCTAAACAGTTTCAACGGTCCCAGTTGGTACTGGTCACAAAAGGATTTAAC
 TTGTTCTGTAAATATATACCATGTACTGTGGCATTGAGAAATATAACTTCCATTTCTTTCTGCCCTTGGGAC
 CAATGAAGGAGTGTGGAAAAATGCATTGAGCAAAATATAACTTCCATTTCTTTCTGCCCTTGGGAC
 TGGAAACATGGAATAAAGAAGGAAACAGCAGCAGAGATTTTGTGGTGAAGTTTTAACATTTGCCAAA
 GACCATGTAAAACACCAGTTAACTGTAAAATTTGTGATCTTTCCAACAGATTTGGAGATATATAAGGCTT
 TCAGTTCTGAAATGGCAAAGAGTCCAAGATGCTGAGTTTGAACAATTACAGTGTCCCCAGTCAACCAG
 AGAGGAGAAAAGAGAAAATGGGCTTGAAGCTAGATCTCCTGCCATCAATCTGATGGGATTCAACGTGGAA
 GAGATGTATGAGGCCACGCATGGATCCAAGAATCCTGAGTCTCCAGAACCACCACATCATTGAGAATA
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 CATCACAGAAATATCAGCCCAGGAAGGACAGAGTTAGAGATTGAAGGAGCCCGGCTGACCTCATTGAG
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 TTTGGCGCTCGTTAGGACAGTGGACTATTCAGCAACAAAAACCCAAGACGAAATGAAAGAAAATATCAT
 ATTTCTGAAATGTCTGTGCCTCCAACCTCAAGAGCTTCTAGATCAAAAAGAAACAGTTTAAAAATGTGGT
 TTGAGGTTCTAAAGGTGGAGAAGATAGACAATGAGGTCCTTATGGCTGCCTTTCAAAGAAAAGAAAA
 TGATGGAAGAAAACTGCACAGGCAACCTGTGAGCCATAGGCTGTTTCAGCAAGTCCCATACCAAGTCTG
 CAATGTGGTATGCAGAGTTGGCTTTCAAAGAATGTAAGTACTCGACACCTTGGGTAGGTGTAATGCCTCATC
 ATTGGGGCTACTCTGTGGAATTTGGTGAGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG228551 representing NM_001146106
 Red=Cloning site Green=Tags(s)

MDFS MVAGAAAYNEKSETGALGENYSWQIPINHDFKILKNNERQLCEVLQNKFGCISTLVSPVQEGNSK
 SLQVFRKMLTPRIELSVWKDDL TTHAVDAVVNAANEDLLHGGGLALALVKAGGFEIQEESKQFVARYGKV
 SAGEIAVTGAGRLPCKQIIHAVGPRWMEWDKQGCTGKLRRAIVSILNYVIYKNTHIKTVAIPALSSGIFQ
 FPLNLCTKTIVETIRVSLQGKPMMSNLKEIHLVSNEDPTVAAFKAASEFILGKSELGQETTPSFNAMVVN
 NLTLQIVQGHIEWQTADVI VNSVNP HDITVGPVAKSILQQAGVEMKSEFLATKAKQFQRSQLVLVTKGFN
 LFCKYIYHVLWHSEFPKPQILKHAMKECLEKCIQNITSISFPALGTGNMEIKKETAAEILFDEVLTFAK
 DHVKHQLTVKFVIFPTDLEIYKAFSSEMAKRSKMLSLNNYSVPQSTREEKRENGLEARSPAINLMGFNVE
 EMYEAHAWIQRILSLQNHIIENNHILYLGRKEHDILSQLQKTSSVSITEIISPGRTELEIEGARADLIE
 VVMNIEDMLCKVQEEMARKKERGLWRS LGQWTIQQKQTQDEMKENIIFLKCPVPPTQELLDQKKQFEKCG
 LQVLKVEKIDNEV LMAAFQRKKKMEEKLHRQPVSHRLFQQVPYQFCNVVCRVGFQRMYSTPCGRCQLI
 IGATLWNLVS

TRTRPLE - GFP Tag - V

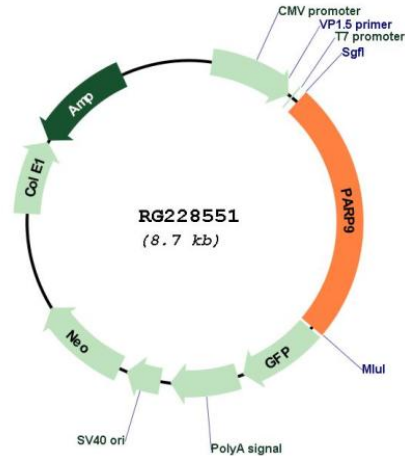
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001146106

ORF Size: 2130 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_001146106.2](#)

RefSeq Size: 6801 bp

RefSeq ORF: 2133 bp

Locus ID: 83666

Cytogenetics: 3q21.1

Gene Summary: ADP-ribosyltransferase which, in association with E3 ligase DTX3L, plays a role in DNA damage repair and in immune responses including interferon-mediated antiviral defenses (PubMed:16809771, PubMed:23230272, PubMed:26479788, PubMed:27796300). Within the complex, enhances DTX3L E3 ligase activity which is further enhanced by PARP9 binding to poly(ADP-ribose) (PubMed:28525742). In association with DTX3L and in presence of E1 and E2 enzymes, mediates NAD(+)-dependent mono-ADP-ribosylation of ubiquitin which prevents ubiquitin conjugation to substrates such as histones (PubMed:28525742). During DNA repair, PARP1 recruits PARP9/BAL1-DTX3L complex to DNA damage sites via PARP9 binding to ribosylated PARP1 (PubMed:23230272). Subsequent PARP1-dependent PARP9/BAL1-DTX3L-mediated ubiquitination promotes the rapid and specific recruitment of 53BP1/TP53BP1, UIMC1/RAP80, and BRCA1 to DNA damage sites (PubMed:23230272, PubMed:28525742). In response to DNA damage, PARP9-DTX3L complex is required for efficient non-homologous end joining (NHEJ); the complex function is negatively modulated by PARP9 activity (PubMed:28525742). Dispensable for B-cell receptor (BCR) assembly through V(D)J recombination and class switch recombination (CSR) (By similarity). In macrophages, positively regulates pro-inflammatory cytokines production in response to IFNG stimulation by suppressing PARP14-mediated STAT1 ADP-ribosylation and thus promoting STAT1 phosphorylation (PubMed:27796300). Also suppresses PARP14-mediated STAT6 ADP-ribosylation (PubMed:27796300).[UniProtKB/Swiss-Prot Function]