

Product datasheet for **RC228596**

PARP9 (NM_001146102) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PARP9 (NM_001146102) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PARP9
Synonyms:	ARTD9; BAL; BAL1; MGC:7868
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>RC228596 representing NM_001146102
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGACTTTTCCATGGTGGCCGGAGCAGCAGCTTACAATGAAAAATCAGGTAGGATTACCTCGTCTCAC
 TCTTGTTCAGAAAGTCTTTGCTCAGATCTTCTCAGTGGAGAAAGGGGAATACAGAAGAATGTCTCCC
 CTACAAGTGCTCAGAGACTGGTGTCTTGGAGAAAATAGTTGGCAAATCCCAATTAACCACAATGAC
 TTCAAATTTTAAAAAATATGAGCGTCAGCTGTGTGAAGTCTCCAGAATAAGTTGGCTGTATCTCTA
 CCCTGGTCTCTCCAGTTCAGGAAGGCAACAGCAAATCTCTGCAAGTGTTCAGAAAAATGTGACTCTAG
 GATAGAGTTATCAGTCTGGAAAGATGACCTCACACACATGCTGTTGATGCTGTGGTGAATGCAGCCAAT
 GAAGATCTTCTGCATGGGGAGGCTGGCCCTGGCCCTGGTAAAAGCTGGTGGATTTGAAATCCAAGAAG
 AGAGCAAACAGTTTGTGCCAGATATGGTAAAGTGTGAGTGGTGGATAGCTGTACGGGAGCAGGGAG
 GCTTCCCTGCAACAGATCATCCATGCTGTTGGGCTCGGTGGATGGAATGGGATAAACAGGGATGTACT
 GGAAGCTGCAGAGGGCCATTGTAAGTATTCTGAATTATGTCATCTATAAAAAATCTCACATTAAGACAG
 TAGCAATTCAGCCTTGAGCTCTGGGATTTTTCAGTCCCTCTGAATTTGTGTACAAAGACTATTGTAGA
 GACTATCCGGTTAGTTTGAAGGGAAGCCAATGATGAGTAATTTGAAAGAAATTCACCTGGTGAGCAAT
 GAGGACCTACTGTTGCTGCCTTAAAGCTGCTTCAGAATTCATCCTAGGGAAGAGTGAGCTGGGACAAG
 AAACCACCCCTCTTTCAATGCAATGGTCGTGAACAACCTGACCTCCAGATTGTCCAGGGCCACATTGA
 ATGGCAGACGGCAGATGTAATTGTTAATCTGTAAACCCACATGATATTACAGTTGGACCTGTGGCAAAG
 TCAATTTACAACAAGCAGGAGTTGAAATGAAATCGGAATTTCTGCCACAAAGGCTAAACAGTTTCAAC
 GGTCCTCAGTTGGTACTGGTCAAAAAGGATTTAACTTGTCTGTAATATATACCATGTACTGTGGCA
 TTCAGAATTTCTAAACCTCAGATATTAACATGCAATGAAGGAGTGTGGAAAAATGCATTGAGCAA
 AATATAACTTCCATTTCTTTCTGCCCCTGGGACTGGAACATGGAATAAAGAAGGAAACAGCAGCAG
 AGATTTTGTGTTGATGAAGTTTAAACATTTGCCAAAGACCATGTAACACCCAGTTAACTGTAATTTGT
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 CTCCTGCCATCAATCTGATGGGATTCACGTGGAAGAGATGTATGAGGCCACGCATGGATCCAAGAAT
 CCTGAGTCTCCAGAACCCACATCATTGAGAATAATCATATTCTGTACCTTGGGAGAAAGGAACATGAC
 ATTTTGTCTCAGTTTCAAAAATCAAGTGTCTCCATCACAGAAATATCAGCCAGGAAGGACAGAGT
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 ACAGGAGGAAATGGCAAGGAAAAAGGAGCGAGGCTTTGGCGCTCGTTAGGACAGTGGACTATTCAGCAA
 CAAAAACCCAAGACGAAATGAAAGAAAATATCATATTTCTGAAATGTCTGTGCCTCCAACCAAGAGC
 TTCTAGATCAAAAAGAACAGTTTAAAAATGTGGTTTGCAGGTTCTAAAGGTGGAGAAGATAGACAAATGA
 GGTCTTATGGCTGCCTTTCAAAGAAAGAAAGAAAATGATGGAAGAAAAACTGCACAGGCAACCTGTGAGC
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 TTCTGCCAGGGACATCCGTTAAATATTGTTCCCCACCCTGAGTCTGGAGCTATAGATGGTCATGACA
 GTGTGGTTGACAATGTCTCCAGCCCTGAAACCTTTGTTATTTTTAGTGGCATGCAGGCTATACCTCAGTA
 TTTGTGGACATGCACCCAGGAATATGTACAGTCAACAAGATTACTCATCAGGACCAATGAGACCCTTTGCA
 CAGCATCCTTGGAGGGGATTCGCAAGTGGCAGCCCTGTTGAT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC228596 representing NM_001146102
 Red=Cloning site Green=Tags(s)

MDFS MVAGAAAYNEKSGRITSL SLLFQKVFAQIFPQWRKGNTEECLPYKCSETGALGENYSWQIPINHND
 FKILKNNERQLCEVLQNKFGCISTLVSPVQEGNSKSLQVFRKMLTPRIELSVWKDDLTTHAVDAVNAAAN
 EDLLHGGGLALALVKAGGFEIQEESKQFVARYGKVSAGEIAVTGAGRLPCKQIIHAVGPRWMEWDKQGCT
 GKLRRAIVSILNYVIYKNTHIKTVAIPALSSGIFQFPLNLCTKTIVETIRVSLQKGPMSNLKEIHLVSN
 EDPTVAAFKAASEFILGKSELGQETTPSFNAMVVNLLTLQIVQGHIEWQTADVIVNSVNPHDITVGPVAK
 SILQQAGVEMKSEFLATKAKQFQRSQLVLVTKGFNLFCKYIYHVLWHSEFPKPQILKHAMKECLEKCEIQ
 NITSISFPALGTGNMEIKKETAAILFDEVLTFAKDHVKHQLTVKFVIFPTDLEIYKAFSSEMAKRKML
 SLNNYSVPQSTREEKRENGLEARSPAINLMGFNVEEMYEAWIQRILSLQNHIIENNHILYLGRKEHD
 ILSQLQKTSSVSITEIISPGRTELEIEGARADLIEVVMNIEDMLCKVQEEMARKKERGLWRS LGQWTIQQ
 QKTQDEMKENIIFLKCPVPPTQELLDQKKQFEKCGLQVLKVEKIDNEVLMAAFQRKKMMEEKLHRQPVS
 HRLFQQVPYQFCNVVCRVGFQRMYSTPCDPKYGAGIYFTKNLKNLAEKAKKISAADKLIYVFEAEVLTGF
 FCQGHPLNIVPPPLSPGAIDGHDSVVDNVSSPETFVIFSGMQAIPQYLWTCTQEYVQSQDYSSGPMRPPA
 QHPWRGFASGSPVD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6676_b01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

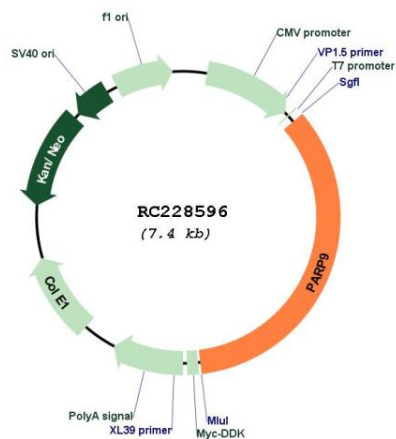


* The last codon before the Stop codon of the ORF

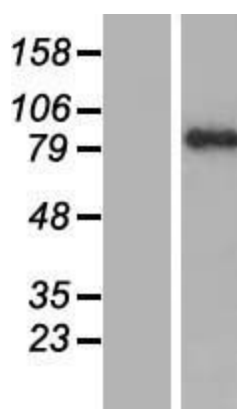
ACCN:	NM_001146102
ORF Size:	2562 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its 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:	<ol style="list-style-type: none">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_001146102.2
RefSeq ORF:	2565 bp
Locus ID:	83666
UniProt ID:	Q8IXQ6
Cytogenetics:	3q21.1
MW:	96.2 kDa

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]

Product images:

Circular map for RC228596



Western blot validation of overexpression lysate (Cat# [LY431624]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC228596 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).