



PARP3 Blocking Peptide (N-term)

Synthetic peptide Catalog # BP20360a

# **Specification**

PARP3 Blocking Peptide (N-term) - Product Information

Primary Accession <a href="Q9Y6F1">Q9Y6F1</a>

PARP3 Blocking Peptide (N-term) - Additional Information

Gene ID 10039

#### **Other Names**

Poly [ADP-ribose] polymerase 3, PARP-3, hPARP-3, ADP-ribosyltransferase diphtheria toxin-like 3, ARTD3, IRT1, NAD(+) ADP-ribosyltransferase 3, ADPRT-3, Poly[ADP-ribose] synthase 3, pADPRT-3, PARP3, ADPRT3, ADPRTL3

#### **Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

### **Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

#### **Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PARP3 Blocking Peptide (N-term) - Protein Information

### Name PARP3

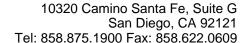
{ECO:0000303|PubMed:10329013, ECO:0000312|HGNC:HGNC:273}

## **Function**

Mono-ADP-ribosyltransferase that mediates mono-ADP- ribosylation of target proteins and plays a key role in the response to DNA damage (PubMed:<a href="http://www.unip">http://www.unip</a>

# PARP3 Blocking Peptide (N-term) - Background

Involved in the base excision repair (BER) pathway, by catalyzing the poly(ADP-ribosyl)ation of a limited number of acceptor proteins involved in chromatin architecture and in DNA metabolism. This modification follows DNA damages and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks. May link the DNA damage surveillance network to the mitotic fidelity checkpoint. Negatively influences the G1/S cell cycle progression without interfering with centrosome duplication. Binds DNA. May be involved in the regulation of PRC2 and PRC3 complex-dependent gene silencing.





rot.org/citations/16924674"

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PubMed:<a href="http://www.uniprot.org/ci

tations/20064938"

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PubMed:<a href="http://www.uniprot.org/ci

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PubMed:<a href="http://www.uniprot.org/ci

tations/21270334"

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PubMed:<a href="http://www.uniprot.org/ci

tations/25043379"

target=" blank">25043379</a>,

PubMed:<a href="http://www.uniprot.org/ci

tations/24598253"

target="\_blank">24598253</a>). Mediates

mono-ADP- ribosylation of glutamate,

aspartate or lysine residues on target

proteins (PubMed:<a href="http://www.unip

rot.org/citations/20064938"

target="\_blank">20064938</a>,

PubMed:<a href="http://www.uniprot.org/ci

tations/25043379"

target="\_blank">25043379</a>). In

contrast to PARP1 and PARP2, it is not able

to mediate poly-ADP-ribosylation

(PubMed:<a href="http://www.uniprot.org/c

itations/25043379"

target=" blank">25043379</a>).

Associates with a number of DNA repair

factors and is involved in the response to

exogenous and endogenous DNA strand

breaks (PubMed:<a href="http://www.unipr

ot.org/citations/16924674"

target=" blank">16924674</a>,

PubMed:<a href="http://www.uniprot.org/ci

tations/21211721"

target="\_blank">21211721</a>,

PubMed:<a href="http://www.uniprot.org/ci

tations/21270334"

target="\_blank">21270334</a>). Together

with APLF, promotes the retention of the

LIG4-XRCC4 complex on chromatin and

accelerate DNA ligation during

non-homologous end-joining (NHEJ)

(PubMed:<a href="http://www.uniprot.org/c

itations/21211721"

target=" blank">21211721</a>).

Cooperates with the XRRC6-XRCC5

(Ku70-Ku80) heterodimer to limit

end-resection thereby promoting accurate

NHEJ (PubMed:<a href="http://www.uniprot."

org/citations/24598253"

target=" blank">24598253</a>). Involved

in DNA repair by mediating mono-ADP-

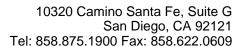
ribosylation of a limited number of acceptor



proteins involved in chromatin architecture and in DNA metabolism, such as XRRC5 and XRCC6 (PubMed:<a href="http://www.unipr ot.org/citations/16924674" target=" blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/ci tations/24598253" target=" blank">24598253</a>). ADP-ribosylation follows DNA damage and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks (PubMed:<a href="http://www.uniprot.org/c itations/16924674" target=" blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/ci tations/21211721" target="\_blank">21211721</a>, PubMed:<a href="http://www.uniprot.org/ci tations/21270334" target=" blank">21270334</a>). May link the DNA damage surveillance network to the mitotic fidelity checkpoint (PubMed:<a href="http://www.uniprot.org/citations/1692" 4674" target=" blank">16924674</a>). In addition to proteins, also able to ADP-ribosylate DNA: mediates DNA mono-ADP-ribosylation of DNA strand break termini via covalent addition of a single ADP-ribose moiety to a 5'- or 3'-terminal phosphate residues in DNA containing multiple strand breaks (PubMed:<a href="h ttp://www.uniprot.org/citations/29361132" target=" blank">29361132</a>, PubMed:<a href="http://www.uniprot.org/ci tations/29520010" target=" blank">29520010</a>). Acts as a negative regulator of immunoglobulin class switch recombination, probably by controlling the level of AICDA /AID on the chromatin (By similarity).

#### **Cellular Location**

Nucleus. Chromosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Note=Almost exclusively localized in the nucleus and appears in numerous small foci and a small number of larger foci whereas a centrosomal location has not been detected (PubMed:16924674). In response to DNA damage, localizes to sites of double-strand break (PubMed:21270334). Preferentially localized to the daughter centriole (PubMed:10329013).





**Tissue Location** 

Widely expressed; the highest levels are in the kidney, skeletal muscle, liver, heart and spleen; also detected in pancreas, lung, placenta, brain, leukocytes, colon, small intestine, ovary, testis, prostate and thymus.

# PARP3 Blocking Peptide (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

• Blocking Peptides